GENERAL
JUL 25 1918
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CLEVELAND, JULY 25, 1918

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Four Dollars a Year
Single Copies 15 Cents

Test Pieces from 3/8" Plate—Bent till Cracks Developed

Untreated Steel
Cracked entire width

Titanium Treated
Bent flat—slight crack just starting

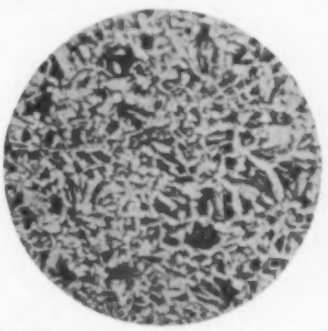
Note Typical Alumina Inclusions

Microphotographs unetched and magnified 150 diameters

No Alumina Particles in Titanium Treated Sample

Badly Streaked Structure

Microphotographs etched with nitric acid and magnified 75 diameters



Uniform Structure, few coarser grains due to hot rolling

The Titanium Alloy Mfg. Company

Niagara Falls,

Pittsburgh Office, Oliver Building
New York Office, 165 Broadway

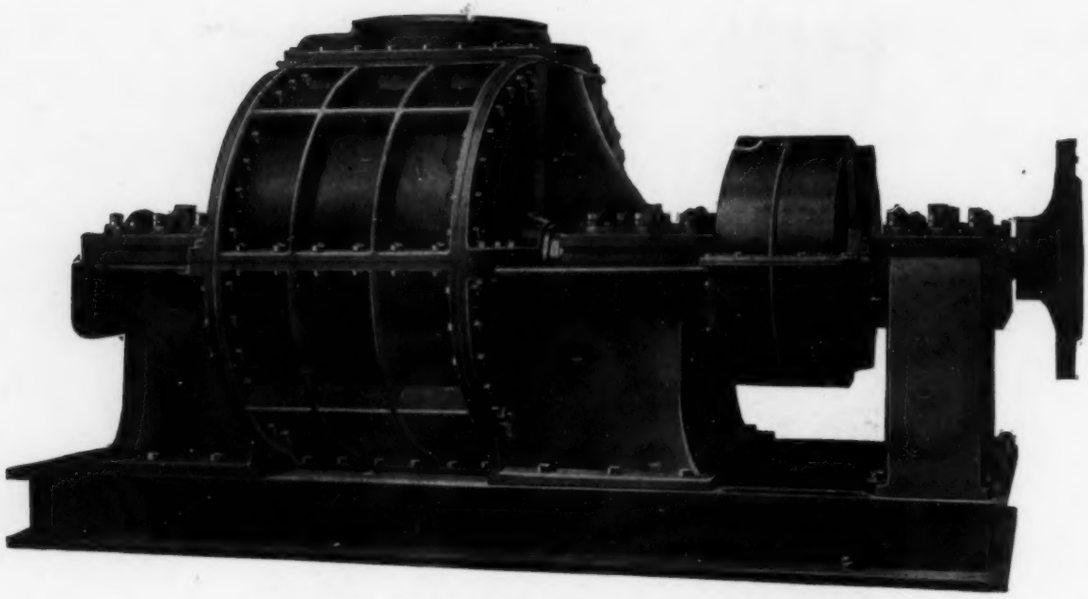
FERRO CARBON
Reg. U.S. Pat. Office Trade Mark
F.C.T.
TITANIUM

New York

Chicago Office, Peoples Gas Building
T. Rowlands & Co., Ltd. Sheffield, England

Agents for Great Britain and Europe

Advertisers' Index, pages 155-157. Contents, page 186 (Editorial) "Where-to-Buy", page 76.
Engineering Directory, pages 120-121. Classified Advertisements, pages 132-154.



Connersville High Pressure Gas Pump

CONNERSVILLE

Gas Pumps, Exhausters and Boosters

CONNERSVILLE GAS PUMPS, EXHAUSTERS and BOOSTERS are exceptionally advantageous wherever gas is handled.

Although they are the type of simplicity, they possess all the features of practical construction, resulting from years of experience.

CORRECT

The testimonials which we have received from users of CONNERSVILLE PUMPS, EXHAUSTERS and BOOSTERS, prove that "Connersville" products are correct both in design and service. Many state that they out-work as well as out-last the best pumps that they have ever been able to obtain.

EFFICIENT

Their range of capacity is from 25 to 40,000 cu. ft. per minute, and their pressure range is from ½ to 10 pounds. There is no lost motion—all motion is rotary, parts being carefully balanced and separated by accurately gauged clearances. There are no valves, no springs, and no internal parts requiring lubrication.

SERVICEABLE

The service to which CONNERSVILLE PUMPS, EXHAUSTERS and BOOSTERS can be put, is almost unlimited. They can be used for handling air, gas, steam, water and all other fluids.

These pumps may be driven by belt, by direct connected steam engine, by electric motor direct connected or through gear and pinion, or by silent chain.

If you wish correct and efficient pump service write for a "CONNERSVILLE" catalog.

THE CONNERSVILLE BLOWER CO.

CHICAGO
929 Monadnock Bldg.

CONNERSVILLE, IND.

NEW YORK
114 Liberty St.

THE IRON TRADE REVIEW

Vol. LXIII Cleveland, July 25, 1918 *No. 4*

Nonwar Steel Users Hunt for Cover

Although Government's Requirements for Last Half May Not Reach 20,000,000 Tons Further Curtailment of Nonessentials is Predicted—Labor Slackers on the Grill—Pig Iron Allotments Heavy

INURED to the shocks of war through 16 months experience, the iron and steel industry has failed to become excited over the developments of the past week during which the wrench was again applied to the bolts that are slowly clamping the lid on the activities of nonessential consumers of both raw and finished products. On Thursday the war industries board announced that the government's steel requirements for the last half of this year are 20,000,000 tons, pointing out at the same time that our best previous production in a similar period was only 16,500,000 tons. This was followed almost immediately by a statement that nonwar users of steel must make out an inventory of their stocks, which, it was intimated, are subject to seizure if the situation should warrant such action.

Although the keen edge of the original announcement has been dulled by subsequent explanations which indicate that the steel shortage at present is more a matter of figures than tons of actual material, the drift of the situation is clearly toward further and further restriction of blast furnace and steel works output to definite war essentials.

Some Further Restrictions

Manufacturers of passenger automobiles have been requested to curtail their output to 25 per cent of their 1917 production, although they have already voluntarily reduced their operations to a 60 per cent basis. The great Ford plant with its daily capacity of 2000 cars will shortly be turning out only 350 machines a day exclusive of cars for military purposes. The new demand for drastic curtailment has created some feeling in automobile circles. Some makers point out that they have unbalanced stocks on hand sufficient for a fair output which could be used if they were permitted to purchase a limited additional quantity of certain grades of steel. It seems more likely that their stocks will be balanced by the commandeering process. War demands for steel are constantly reaching out in new directions. Recently inquiries for over 2000 tons of bands and light angles and 3500 tons of sheets for field kitchens have appeared. Bands also are wanted for the construction of escort wagons. Other war steel needs are growing.

Pig Iron for War

General consumers of pig iron are finding that the virtual elimination of priorities does not mean a free-for-all market. In fact most producers, with whom the authority for shipments has been placed by the war industries board, appreciate the full gravity of their responsibility and are proceeding accordingly. In the Cincinnati district, for instance, stove foundrymen selling their product to the Fleet corporation and the army, have been obliged to demonstrate clearly their need for iron. Foundrymen are turning more and more to scrap as a substitute for pig with the result that the cast scrap market in all centers is subject to great pressure and dealers' yards in many districts have been swept almost bare of supplies. Pig iron allotments grow apace with the expanding war activities and many heavy tonnages are now awaiting placement. Selling of pig iron for 1919 shipment continues.

Put Screws on Labor

The plans of the fuel administration for eliminating labor slacking in the coke regions are scarcely less important in their potential effect on the steel situation than the activities of the war industries board. In brief it is proposed to keep a record of all absences from work of half a day or more for future action, with the broad implication that the habitual loafer will find himself inducted into the army forthwith. Suitable rewards for faithful workmen also are proposed. Every effort is to be made to prevent slowing down of blast furnace production through lack of coke. In New England the coke situation has completely reversed itself, and as a result of the fuel administration's embargo surplus stocks are being accumulated.

JULY 25, 1918

THE IRON TRADE REVIEW

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IN THIS ISSUE

PAGE

IRON AND STEEL MARKET REVIEW 185
EDITORIALS 186, 187
IRON AND STEEL PRICES 188, 236
INDEX TO MARKET REPORTS 188
IRON AND STEEL MARKETS 189
QUANTITY PRODUCTION IN A NEW PLANT 201
Output Greater Than Planned is Being Obtained in Essington Plant Recently Built for Manufacturing Ship-Propulsion Machinery.
IRON WEALTH OF LORRAINE 208
SILICON CARBIDE USEFUL AS A RESISTOR 209
LIMONITE DEPOSITS IN PORTO RICO 210
BRITISH SOLVE WAR LABOR PROBLEM 211
Relationship Between Capital and Labor, and Operation of Wage Boards and Arbitration Court Under Munitions Act Studied in Light of America's Difficulties—Trouble is Slight But Wage Increase is Huge.
U. S. CHIEF OF FIRE PROTECTION URGED 214
AFTER WAR—BIG INDUSTRIES SUPREME 215
Co-Operation and Combination Vital Elements For Success in the Coming Days of Intense Trade Rivalry—Leading Minds of England See Germany as Strongest Competitor—Plan Industrial Organization Second to None.
MORE PIG IRON STILL CRY IN ENGLAND 217
REPLOGLE NOW STEEL ADMINISTRATOR 218
CAPITAL BUSY WITH LABOR PROBLEMS 221
VARIETY MARKS RECENT TOOL INQUIRY 226

Calling for the Little Fellow

GIGANTIC plants built in 30 days, mammoth gun works making ordnance where corn grew last fall, and huge factories expanded to many times their prewar capacity form some of the most spectacular features of modern industry. The east in particular has seen a phenomenal growth. Building records have been established which will not be surpassed.

With this growth, which though essential, was in a measure abnormal, transportation and labor questions arose. Skilled workmen attracted by high wages flocked to the large centers from smaller communities, and difficulties arose in housing conditions which are not yet fully solved.

The chief trouble to the manufacturer was with the highest types of skilled men. Expert machinists, molders and other artisans of the best class were attracted from small towns, many of them leaving the only jobs they had ever held. These men became discouraged in many cases and formed the bulk of a huge labor turnover. And the final result of all the dissatisfaction was a weakening of the public morale; dissatisfaction in the individual which in the multiple constituted a public problem.

These conditions were responsible for the first steps in bringing the government and the small manufacturer together. The "little fellow" with only a few machines in a small town shop had a potential output which the government needed. Further Mac and John and Charlie who had grown up in the small shop were efficient producers when they were working in their own shop; but when transported to a strange city and face to face with new problems of everyday life and existence, they become discontented and therefore produced nothing like the work which was possible at home.

Confronting this question the war industries board created the resources and conversion section, which has for its object the searching out of the potential capacity of all manufacturing plants throughout the country. This section is just now getting under way, and upon its functioning depends the question of whether the government is too large to find the "little fellow" and be helped by him.

Facts and statistics will not accomplish the task. Neither will committee meetings and conventions. The full measure of success depends mutually upon the conscientious efforts of the local bodies now being established and upon the interest of the small manufacturer in making himself known to his local and regional organizations. The "little fellow" must stand up to be counted.

A Return to Normal Times Desired

MACHINE tool dealers are not complaining. At the same time they are all anxious for a return to normal business conditions. It is believed that this does not necessarily imply the end of the war. If they desired that (and they do) machinery men would be no different than 110,000,000 other Americans. They have a feeling that normal times or at least seminormal times can return during the war. The elimination of much red tape will, they claim, do much to restore "business as usual".

One dealer recently said he would not quote a railroad three weeks' delivery, even though such delivery was asked and proved possible, because he knew that the order could not pass through the mazes of red tape inside of a month. Another dealer said that the "cost plus 10 per cent" basis for government business was the greatest business mistake ever perpetrated. In this dealer's belief, the sooner it is eliminted the quicker will come the restoration of sane business methods. This form of contract almost invariably creates inflated values. It is claimed by this dealer that his house would rather not sell machines on a cost-plus basis to its customers because when times do become normal, about 50 per cent of the machines' value will have to be charged off. This dealer is anxious to protect the good will that exists between him and his customers. By adopting this form of buying, the government has become an unfair

competitor in the market. Price no longer is an object. The purchasing agent goes out into the open market, sees what will meet his requirements and buys regardless of price. The seller realizes that cost plus 10 per cent is assured and immediately the price goes up. On the other hand, concerns operating on government work have a strong inducement to indulge in promiscuous buying of equipment, knowing that the government foots the bill and pays 10 per cent additional. Thus a hardship is worked on other consumers and values are inflated.

Incidentally, too little room is left for initiative on the part of salesmen. They have deteriorated into order-takers. One salesman sat at his desk in Cleveland recently and in a few moments one morning sold over $25,000 worth of machines, or rather took orders for them. Instructions are given out by the home office, "take your machine and go fishing." But as one salesman remarked, "that doesn't look well on the report where the branch office's monthly sales are tabulated."

Many salesmen are concentrating upon service. One made a tour of several hundred miles in an automobile last week, calling upon his old customers. He didn't take an order. He didn't expect to do any business. His aim was merely to cement the goodwill that exists between his house and its patrons. This procedure would seem to offer an avenue for salesmen's efforts with a maximum return. They know the equipment. They are able to offer advice, information and suggestions looking toward obtaining the most service from the machines in operation. They would naturally be first to recognize an impending need of repairs. Recommendations they might make would perhaps eliminate the scrapping of entire machines by replacing some parts which become worn from over-usage. While awaiting the return to normal times, the machine tool dealers and their salesmen in many districts are making existing times as normal as they can.

Political Prattling That Hurts

WITH what may prove to be the greatest battle of all time now raging in France; with the need of American troops at the front to support our valiant allies; and with the fate of the world hanging in the balance, a transport is held up for nearly a week at an Atlantic port. Why? Because the firemen and coal passers, backed up by representatives of their unions, refused to sign articles, following notice from the secretary of war that the crews of United States transports would not be paid a bonus of 50 per cent for going through the danger zone. The secretary held that, since the soldiers aboard the transports receive no increased pay and, furthermore, face danger every minute at the front, "it seems wholly unjustifiable to assert that seamen are lacking in patriotism to such an extent as to insist upon extra pay for taking risks which their fellow citizens in the army are taking cheerfully and without thought of additional gain." Whereupon the business manager of the Marine Engineers' association wired the secretary of war asking him that the new rule be rescinded because of the high cost of living. He said that profiteering was being carried on openly on all sides by big corporations and small retailers and therefore he could not see why the crews of transports should be deprived of the war bonus.

All of which smacks of the recent distorted and demogogical report of federal trade commission to the senate on alleged war profiteering. Fortunately, the government can pack every manjack of military age into the training camps and replace all with loyal naval reserves. What a pity that some commissioners are not also of military age! They might be performing a useful service, instead of needlessly obstructing the operation of the war department through careless public condemnation of policies laid down by the war industries board with the approval of the administration, policies which have the sanction of the war department, whose eye is turned toward production, and also of the treasury department which is looking to ever increasing taxes.

Replacement on a Business Basis

ARE the jobbers of iron and steel products to become a more vital part of the war machine? They certainly should be able to if the regulations of the war industries board with regard to the replacement of stocks are modified or revamped along certain lines. Present regulations are being revised in Washington and it is hoped that instead of being obliged to confine replacement purchases to merely those lines from which sales are made, it will be made possible for the jobbers to add to their stocks of products essential to war work at the expense of lines that are not essential. From 85 to 90 per cent of the current jobbing business is with plants directly or indirectly engaged on war work. But as matters now stand, the jobbers cannot increase their stocks of essentials in proportion to the demand, as the sale of some nonessential commodity must be replaced by a pound-for-pound purchase of the same commodity. If the jobbers are permitted to replace to some extent at least the commodities for which there is at present only a limited outlet with those products that are now sought for government work, the great aim of winning the war is helped along to the extent that the small plant that has been drawing supplies from the jobber will find little trouble in obtaining its requirements. Filling what may be considered the spot demand the warehouseman has an important though sometimes unappreciated function.

Iron and Steel Prices

Corrected to Wednesday Noon

SCRAP, WAREHOUSE AND IRON ORE PRICES ON PAGE 236

PIG IRON

Bessemer, valley	$35.20
Bessemer, Pittsburgh	36.50
Basic, Pittsburgh	33.40
Basic, eastern Pa.	32.00
Basic, Buffalo	32.00
Malleable, Pittsburgh	34.90
Malleable, Chicago	33.50
Malleable, Buffalo	33.50

GOVERNMENT SCHEDULE

1.75 to 2.25 silicon (No. 2 foundry, No. 2 plain, and No. 3 southern), $33 furnace base.

2.25 to 2.75 silicon (No. 2X, No. 1 Northern foundry, and No. 2 southern), base plus 50c.

2.75 to 3.25 silicon (No. 1X, No. 2, soft), base plus $1.50.

Over 3.25 silicon, $34.50, plus $1.00 for each ½ per cent of silicon.

No. 1X, Phila.	35.25 to 35.50
No. 2 foundry, Pittsburgh	34.40
No. 2 foundry, Cleveland	33.00
No. 2 foundry, Ironton	33.00
No. 1 foundry, Chicago	33.50
No. 2 foundry, Chicago	33.00
No. 2X foundry, Phila.	34.25 to 34.50
No. 2X foundry, N. J. tide	34.25 to 34.50
No. 2X foundry, Buffalo	33.50
No. 2 plain, Philadelphia	33.75 to 34.00
No. 2 plain, N. J. tide	33.75 to 34.00
No. 2 southern Birmingham	33.00 to 33.50
No. 2 southern, Cincinnati	37.10
No. 2 southern, Chicago	38.50
No. 2 southern, Phila.	40.10
No. 2 southern, Cleveland	38.50
No. 2 southern, Boston	41.00
No. 2 southern, St. Louis	39.75
Virginia, No. 2X, furnace	33.50
Virginia, No. 2X, Phila.	37.60
Virginia, No. 2X, Jersey City	37.90
Virginia, No. 2X, Boston	38.20
Gray forge, Pittsburgh	33.40
Silveries, 8 per cent, furnace	45.50
Silveries, 8 per cent, Chicago	48.50
Low phos. standard, Phila.	56.00
Low phos. Lebanon, furnace	50.00 to 52.00
Low phos., Pittsburgh standard	54.40
Charcoal, Superior, Chicago	37.70 to 38.00
Charcoal, Superior, Buffalo	37.50
Charcoal, southern to 2 per cent silicon	43.00

COKE

(At the ovens)

Connellsville furnace	$6.00
Connellsville foundry	7.00
Pocahontas furnace	8.00
Pocahontas foundry	8.00
New River foundry	8.00
New River furnace	8.00
Wise county furnace	7.25
Wise county foundry	8.25

FERROALLOYS

Ferromanganese, 70 per cent delivered	250.00
Spiegel, 16 per cent fur., spot	75.00
Spiegel, contracts, furnace	75.00
Ferrocarbon titanium, carloads, maker's plant	200.00
Ferrosilicon, 50 per cent, third quarter, Pitts.	155.00 to 170.00
Ferrosilicon, 50 per cent, Pitts., remainder of 1918	155.00 to 165.00
Bessemer ferrosilicon, 10 per cent	55.00
Bessemer ferrosilicon, 11 per cent	58.30
Bessemer ferrosilicon, 12 per cent	61.60

Ferrosilicon prices at Ashland, Ky., Jackson and New Straitsville, O.

SEMIFINISHED MATERIAL

BILLETS AND BLOOMS

Open-hearth, Pittsburgh	$47.50
Open-hearth, Philadelphia	51.30
Open-hearth, Youngstown	47.50
Bessemer, Pittsburgh	47.50
Bessemer, Youngstown	47.50
Forging, Pittsburgh	60.00
Forging, Philadelphia	63.80

SHEET BARS

Open-hearth, Pittsburgh	$51.00
Open-hearth, Youngstown	51.00
Bessemer, Pittsburgh	51.00
Bessemer, Youngstown	51.00

SLABS

Pittsburgh and Youngstown	$50.00

WIRE RODS AND SKELP

Wire rods, Pittsburgh	$57.00
Grooved skelp, Pittsburgh	2.90c
Sheared skelp, Pittsburgh	3.25c

SHAPES, PLATES AND BARS

(In cents per pound)

Structural shapes, Pitts.	3.00c
Structural shapes, Phila.	3.23c
Structural shapes, N. Y.	3.245c
Structural shapes, Chgo.	3.27c
Tank plates, Chicago	3.52c
Tank plates, Pittsburgh	3.25c
Tank plates, Philadelphia	3.48c
Tank plates, New York	3.495c
Bars, soft steel, Pittsburgh	2.90c
Bars, soft steel, Chicago	3.17c
Bars, soft steel, New York	3.145c
Bars, soft steel, Phila.	3.13c
Bar iron, Phila.	3.73c
Bar iron, Cleveland	3.67c
Bar iron, New York	3.745c
Bar iron, Pittsburgh	3.50c
Hard steel bars ,Chicago	3.00c

RAILS, TRACK MATERIAL

Angle bars, Pittsburgh base	3.25c
Angle bars, Chicago base	3.25c
Standard bessemer rails, mill	$55.00
Stand. open-hearth rails, mill	57.00
Light rails, 25 to 45, mill	3.00c
Relaying rails, light, St. L.	60.00 to 67.00
Spikes, railroad, Pitts.	3.90c
Track bolts, Pittsburgh	4.90c
Track bolts, Chicago	5.115c
Tie plates, Chicago	3.25c

WIRE PRODUCTS

(Per 100 lbs. to jobbers; retailers 5c more)

Wire nails, Pittsburgh	$3.50
Coated nails, Pittsburgh	3.45
Plain wire, Pittsburgh	3.25
Galvanized wire, Pittsburgh	3.95
Polished staples, Pittsburgh	3.65
Galvanized staples, Pbgh.	4.35
Barb wire, painted, Pitts.	3.65
Barb wire, galvanized, Pitts.	4.35
Cut nails, Pittsburgh	4.00

CHAIN, PILING, STRIP STEEL

(In cents per pound)

Chain, 1 in. proof coil, Pitts.	7.50c
Sheet piling, base, Pitts.	4.00c to 5.00c

Cold rolled strip steel, hard coils, 1½ inches and wider by 0.100 inch and heavier, base per 100 pounds, 6.50c.

Market Report Index

	Page
Weekly Market Review	185
Pig Iron	189
Cars, and Track Materials	191
Coke	191
Scrap	192
Ore	193
Semifinished Steel	193
Warehouse	193
Bars	194
Sheets	194
Nuts, Bolts, and Rivets	194
Tin Plate	195
Plates	195
Structural Shapes	196
Wire	196
Fluospar	197
Ferroalloys	197
Merchant and Cast Iron Pipe	197
Nonferrous Markets	200
Refractories	219
Coke By-Products	225
Machine Tools	226

SHEETS

(In cents per pound)

SHEET MILL BLACK

No. 28, open-hearth, Pitts.	5.00c
No. 28, bessemer, Pitts.	5.00c
No. 28, open-hearth, Chi.	5.27c

TIN MILL BLACK

No. 28, open-hearth, Pitts.	5.00c
No. 28, bessemer, Pitts.	5.00c

GALVANIZED

No. 28, open-hearth, Pitts.	6.25c
No. 28, bessemer, Pitts.	6.25c
No. 28, open-hearth, Chi.	6.52c

BLUE ANNEALED

No. 10, open-hearth, Pitts.	4.25c
No. 10, bessemer, Pitts.	4.25c
No. 10, open-hearth, Chi.	4.52c
No. 10, open-hearth, Phila.	4.48c

TIN PLATE

(Per 100 lb. box)

Tin plate, coke base, Pitts.	$7.75

IRON AND STEEL PIPE

Base Pittsburgh

Base, Pittsburgh	Black Per cent off	Galv. Per cent off
⅜ to 3 in., butt, steel	51	37½
¼ to 3 in., butt, iron	33	17

BOILER TUBES

Steel, 3½ to 4½ inches, l. c. l.	30
Iron, 3½ to 4½ inches, c. l.	12½

CAST IRON WATER PIPE

(Class B Pipe)

Class A pipe is $1 higher than Class B.

Four-inch, Chicago	65.10
Six-inch and over, Chicago	62.05
Four-inch, New York	64.75
Six-inch and over, N. Y.	61.75
Four-inch, Birmingham	58.00
Six-in. and over, Birmingham	55.00

HOOPS, BANDS, SHAFTING

Hoops, Pittsburgh	3.50c
Bands, Pittsburgh	3.50c
Hot rolled strip steel, Pitts.	3.50c
Hot rolled strip steel, Pitts. stamping quality	4.00c
Shafting, Pitts., carloads	17 off to list
Cotton ties, July, per bundle	$1.93

RIVETS

Structural rivets, Pittsburgh	4.40c
Boiler rivets, Pittsburgh	4.50c
Rivets ⅞ in. & small., Pitts.	50 and 10 off

NUTS AND BOLTS

(Delivered within 20-cent freight radius)

CARRIAGE BOLTS

(⅜ x 6 inches, smaller and shorter)

Rolled thread	50–5 off
Cut thread	40–10–5 off
Larger and longer	40 off

MACHINE BOLTS

(⅜ x 4 inches, hot pressed nuts)

Rolled thread	50–10–5 off
Cut thread	50–5 off
Larger and longer	40–10 off
Cold pressed semifinished hexagon nuts ⅝ in. and larger	60–10–10 off
Cold pressed semifinished hexagon nuts ⅞ in. and smaller	70–5 off
Gimlet and cone point lag screws	50–10 off

NUTS

Hot pressed, square blank	2.50c off
Hot pressed, square tapped	2.30c off
Hot pressed, hexagon blank	2.30c off
Hot pressed, hexagon tapped	2.10c off
Cold pressed, square blank	2.25c off
Cold pressed, square tapped	2.00c off
Cold pressed, hexagon blank	2.25c off
Cold pressed, hexagon tapped	2.00c off

Prices Present and Past

(Yesterday, a month ago, three months ago and a year ago)

Quotation on leading products July 24, average for June 1918, average for April 1918, and average for July, 1917. Prices are those ruling in the largest percentage of sales at the dates named.

	Prices July 24, 1918	Average prices June, 1918	April, 1918	July, 1917
Bessemer pig iron, Pittsburgh	$36.60	$36.35	$36.15	$57.95
Basic pig iron, Pittsburgh	33.40	33.20	32.95	53.20
*No. 2 Foundry pig iron, Pitts.	34.40	34.15	33.95	55.95
*No. 2, Foundry pig iron, Chi.	33.00	33.00	33.00	55.00
Lake Superior charcoal, Chicago	37.70	37.50	37.50	59.50
Malleable, valley	33.50	33.50	33.50	55.00
Malleable, Chicago	33.50	33.50	33.50	55.00
**Southern, No. 2, Birmingham.	33.50	33.50	33.50	46.00
*Southern Ohio No. 2, Ironton	33.00	33.00	33.00	54.25
Basic, eastern Pa.	32.00	32.00	32.00	50.75
**No. 2X Virginia, furnace	33.50	33.50	33.50	52.25
**No. 2X foundry, Philadelphia	34.50	34.25	34.25	54.25
Ferromanganese, 70%, delivered	250.00	250.00	250.00	430.00
Bessemer billets, Pittsburgh	47.50	47.50	47.50	100.00
Bessemer sheet bars, Pittsburgh	51.00	51.00	51.00	105.00
Open-hearth sheet bars, Pitts.	51.00	51.00	51.00	105.00
Open-hearth billets, Pitts.	47.50	47.50	47.50	100.00
Steel bars, Pittsburgh	2.90	2.90	2.90	3.87
Steel bars, Chicago	3.17	2.90	2.90	4.50
Iron bars, Philadelphia	3.73	3.685	3.50	4.759

	Prices July 24, 1918	Average prices June, 1918	April, 1918	July, 1917
Iron bars, Cleveland	$3.64	3.64	3.64	4.50
Iron bars, Chicago mill	3.50	3.50	3.50	4.50
Beams, Chicago	3.27	3.00	3.00	5.88
Beams, Pittsburgh	3.00	3.00	3.00	4.50
Beams, Philadelphia	3.23	3.185	3.185	4.909
Tank plates, Pittsburgh	3.25	3.25	3.25	5.62
Tank plates, Chicago	3.52	3.25	3.25	9.64
Tank plates, Philadelphia	3.48	3.435	3.435	10.159
Sheets, blk., No. 28, Pitts.	5.00	5.00	5.00	9.00
Sheets, blue anld., No. 10, Pitts.	4.25	4.25	4.25	8.50
Sheets, galv., No. 28, Pitts.	6.25	6.25	6.25	10.25
Wire nails, Pittsburgh	3.50	3.50	3.50	4.00
Connellsville furnace coke	6.00	6.00	6.00	12.50
Connellsville foundry coke	7.00	7.00	7.00	13.00
Heavy melting steel, Pitts.	29.00	29.00	29.00	40.25
Heavy melting steel, eastern Pa.	28.50	28.50	28.30	37.00
Heavy melting steel, Chicago	29.00	29.00	28.63	35.50
No. 1 wrought, eastern Pa.	34.00	34.00	34.00	54.00
No. 1 wrought, Chicago	33.50	33.50	33.50	43.75
Rerolling rails, Chicago	34.00	34.00	34.00	46.25

*1.75 to 2.25 silicon. **2.25 to 2.75 silicon.

(For Additional Prices See Page 236)

Pig Iron Allotments Are Growing

Heavy Tonnages of Basic and Foundry Have Been Placed and More is Pending—Producers Are Distributing Iron Strictly According to Government Schedule—1919 Sales Continue

Cleveland, July 23.—Definite allocations have been made covering 95,000 tons of the 180,000 tons of basic which has been pending for some time for shipment to Great Britain. The remaining 85,000 tons will be allocated as rapidly as possible. It is not thought now that it will be possible to place as much of this business with southern furnaces as was first reported, because it has developed that the British government will accept only a limited tonnage of sand-cast iron. Other allocations totaled 134,100 tons for the week under review. This brings total allocations to July 20 up to 380,000 tons. Tonnage allotted last week includes 400 tons of silvery iron, 98,000 tons of basic for Great Britain, 4000 tons of bessemer, 4700 tons of malleable and 27,000 tons of foundry iron. The latter includes 1000 tons for a Philadelphia melter, 1050 tons for a Florence, N. J., pipe manufacturer, 1000 tons each to consumers in Waterbury, Conn., and Beaver Falls, Pa., together with 1400 tons for Albany, N. Y., and 2000 tons for a large South Bend, Ind., interest. The 4000 tons of bessemer listed in last week's allocations will be shipped to Canada. An Indianapolis consumer has been allocated 1000 tons of malleable. Among the allocations of foundry iron are 2000 tons for various consumers in Oregon and Washington affiliated with the shipbuilding industry. Pending allocations include 2000 tons of foundry iron for a Pennsylvania user, 12,000 tons of basic for shipment to the same territory, 13,000 tons of basic for an Ohio consumer, and 5000 tons of malleable bessemer for a southern Illinois carbuilder. Heavy selling of pig iron for delivery during the first half of 1919 continues although the tonnage has tapered off somewhat. One southern furnace has offered a limited tonnage for shipment to this territory prior to Sept. 1. This offering has been confined strictly to old customers of the producer.

No 1919 Bookings in Boston

Boston, July 22.—Leaders in the pig iron business in New England are discussing with interest the demand for iron for the first half of next year. Little such business is turning up in Boston. Transportation conditions have grown much better in the past few weeks and labor conditions are favorable. In fact the only obstacle to the fulfillment of old contracts is the tonnage taken over by the government.

Disapprove of 1919 Sales

New York, July 22.—Inquiries for pig iron for the first half of 1919 are increasing in number in this district. With the exception of considerable tonnage of foundry which recently was disposed of by an Alabama maker, no sales have been made for this delivery, and none are expected to be made for the present, for the reason that the director of the steel supply has asked the furnaces not to make any commitments beyond the end of the year. Shipments of pig iron are going forward in large volume and consumers as far as known are receiving sufficient tonnage to meet all requirements. Therefore while the furnaces have little iron to sell, the demand also is small. A few more tonnages of foundry iron for second half delivery in this district

have been allocated to northern furnaces. Included in the allocations during the past week are a number of tonnages of foundry iron for the Pacific coast which are to be furnished from the south.

A Little More Latitude

Buffalo, July 23.—A good many consumers in this district are anxious to be covered for extended futures and some furnaces have booked 1919 iron. The bookings are large and are strictly on the condition that the plans of the government do not interfere with furnishing the material. Furnacemen are breathing a little easier this week owing to the prospect that the bonds under which they are working will be slightly loosened. It is understood among the producers now that when the government's needs have been satisfied, other users may be taken care of.

Little Iron for Nonwar Users

Cincinnati, July 22.—The information now in hand tends to somewhat confute reports that nonessential industrial melters will be able to obtain a supply of iron to carry them through the next six or eight months. Those melters whose questionnaire reports did not show them as operating largely on essential work are not at all in line to receive pig iron for some time to come. The matter of allocating foundry iron has largely been turned over to the furnaces, and extreme care is being used in distributing iron to consumers. The principal complaint is from stovemakers. A number of them have contracts that would place them in the essential list if these contracts averaged above 50 per cent of government work. Information now in hand that was gathered from returned questionnaires indicate that quite a number of melters should be placed in the list of "doubtful consumers", and it is not at all certain that any iron can be furnished later on to any of these firms.

Not Easy to Get Pig

St. Louis, July 23.—The action of war industries board in requiring no priority certificates on pig iron is hopefully construed in certain quarters. It is taken to mean that producers can dispose of any current surplus which may develop to customers outside the essential category. The fact remains, however, that the nonwar plants are unable to get an ounce of basic iron and precious little foundry in this district. The best opinion here is that there is not going to be any basic left over after essential requirements have been met. Quite a number of industries are confirmed in this belief and are shaping their programs accordingly. No business is being booked by them except where they have obtained raw materials. There has been no diminution in the demand for pig iron for last half delivery. Southern, eastern and northern grades figure in the inquiries, and buyers are not discriminating in the matter of analysis or quality. Apparently any sort of iron would be welcome. Some inquiries are reported for the first half of 1919, but so far as can be learned no producer doing business here had made commitments beyond next December. War plants are getting all the iron they need, and in the main are operating at full capacity.

Inquiry For 1919 Increases

Chicago, July 23.—An increase in the volume of inquiry for first half 1919 iron indicates that a real buying movement is on. Some southern furnaces have answered letters asking for 1919 iron by enclosing the institute form covering the intended uses, and in event of receiving answers which indicate a high percentage of essential manufacture have taken the inquiries under consideration. These furnaces forcast an unusual tonnage of off iron due to the character of the coke which is anticipated for next year. Those few southern furnaces which had a small amount of iron for last half have had their surplus absorbed. Some manufacturers with urgent needs have endeavored to buy both through the agency of preferential rating and priority, and having failed in this are seeking definite allocations as an aid. Implement and tractor manufacturers are heavy inquirers, and stove foundries in most cases are approaching an actual famine condition. The larger foundries are in better condition due to the large surplus which they have been able to accumulate, but the small manufacturer unless he is operating on war work is facing an early shutdown.

Government Holds Reins

Birmingham, Ala., July 23.—While inquiries are constantly being received for pig iron to be delivered in 1919, the Southern furnace interests are unable to do much business with the consumers. The government, in other words, holds the reins and the manufacturers are rigidly following the rules and regulations. Delivery on old contracts is still quite satisfactory and the amount of iron in stock is being continually reduced. Furnace operations in the Birmingham district, show but little improvement so far; one furnace has blown out for repairs this month and one has started up. It is expected another furnace will be started up again in the next few days.

Low-Phosphorus Conference

Philadelphia, July 23.—About 12,000 tons of foundry pig iron were allocated in this district during the past week. This tonnage will be furnished mainly by northern furnaces. The allocations include 6300 tons for the Brooklyn navy yard. Action is pending on numerous other tonnages. Low-phosphorus producers met last week with representatives of the war industries board to consider the applications of the Bethlehem Steel Co., Midvale Steel & Ordnance Co. and others for low-phosphorus iron. Owing to the fact that the low-phosphorus market is completely sold up, the pig iron representatives of the board are now considering to what extent these new requirements should take precedence over government business already placed. Also, it is expected that large basic requirements of eastern consumers will soon be allocated. A Virginia maker who previously had not sold any second half iron except on allocations is now offering 3000 tons of foundry for third quarter delivery to regular customers. Only small tonnages will be allotted to each customer and shipments will be made only after all allocated, priority and preference orders are filled. Following sales of foundry iron for the first half of 1919 in the Philadelphia district two weeks ago by an Alabama maker, a northern furnace has advised its regular customers that its books will be opened Aug. 1 for first half foundry iron. The attitude of the war industries board, however, may have an effect on the consumation of this policy. Reports are again being circulated that the war industries board is considering the advisability of the government taking over all pig iron supplies.

Production is Increasing

Pittsburgh, July 23.—Production of pig iron is increasing. The Carnegie Steel Co. today blew in its furnace at Zanesville, O. It now has 57 of its 59 stacks on the active list. The two idle furnaces are at the Edgar Thomson works. They are being raised above the flood level and relined and will not be ready for blowing in until early in November. It is likely that when the two latter furnaces are blown in the company's iron making capacity engaged will be 100 per cent inasmuch as it is not expected to blow any furnaces out for relining or other purposes before

Jan. 1. The stack at Zanesville is a high-cost furnace and has a small capacity. It has been idle for a number of years. It is making bessemer iron which will be shipped to the Columbus works, where sheet bars are being rolled. Fannie furnace of M. A. Hanna & Co., at Middlesex, Pa., which has been out for repairs, will be blown in on steelmaking iron on Wednesday or Thursday of the current week. Inquiries for both steelmaking and foundry iron for first half shipments are coming to furnace interests in good-sized volume, but aside from two or three large makers no one is taking contracts for this delivery. The industry now is on a purely war basis and tonnages are being allocated through the war industries board for essential consumers. This form of distribution has made it impossible for some producers to fill their regular contracts, and in instances no shipments are being made at all on contracts. It is partly to avoid a recurrence of this situation that they are not making commitments for delivery in 1919. It is understood that practically all contracts for iron made at low prices before the United States went to war have been filled, some makers only recently completing shipments of $12 iron.

Small Spikes

Should Receive Preference Due to Their Use in Coal Mines

Pittsburgh, July 23.—The demand for small spikes continues strong and exceeds the supply. Jobbers are anxious that this product be given a better preferential rating owing to its necessity to coal mine operators for laying tracks. Fuel production, it is pointed out, cannot be maintained if miners are not properly equipped with good tracks. Most makers of small spikes are entirely out of the market, although some have decreased their output somewhat. Demands for standard spikes is dull and is not expected to show any marked activity until the railroad administration places its requirements in connection with its program of building. Railmakers are committed far into the next year, but soon will be called upon by the government to roll tonnages, the extent of which is not known, although it is said the first order will involve between 100,000 and 150,000 tons for delivery over the remainder of the current year. Delay in placing the order is said to be due to the differences that exist between the railroad administration and railmakers, and between some of the latter as to prices. Fair inquiry is being made for light rails.

Hot Weather Affects Coke

Strenuous Efforts Being Made to Keep Men at Work—Car Supply Good—No New Contracts

Pittsburgh, July 23.—Fear is felt that the hot weather will result in a reduced output of coke in the Connellsville region. According to reports, however, workmen so far are remaining at their tasks steadily as a general thing, although the labor situation in the region is not entirely satisfactory. As outlined elsewhere in this issue, however, the fuel administration is taking important steps to correct the labor situation. The car supply is satisfactory and the movement of coke to furnaces is regular and adequate except in two or three instances concerning eastern furnaces which are somewhat short of fuel. The coke situation in general is unchanged and so far as known, no new contracts are being made for first half business. Production during the week ended July 13 totaled 353,470 tons as compared with 349,895 tons for the week ended July 6, according to *The Connellsville Courier.*

Building Up Coke Reserves

Boston, July 22.—So satisfactory is the coke situation in New England that numerous requests are coming in from users asking that shipments be withheld until further notice. This means that some concerns have accumulated maximum reserves. New England foundries have been getting all the coke they have wanted for several weeks.

Contracting At Cleveland

Cleveland, July 23.—There has not been much change in the Cleveland coke situation as far as Connellsville supplies are concerned. There is no free coke. Two more large concerns have opened their books for 1919 business, either for first half or the entire year, but they are prepared to take no larger contracts than are running out; indeed, such business as they are willing to book merely amounts to a renewal of existing contracts.

No Stocks Accumulated

Chicago, July 23.—Stringency governs the western coke situation, and at a season when a stock of fuel might be accumulated, no surplus is in sight. Although no hampering effect is evident at this time, the future is extremely grave. An unusual tonnage of off iron is anticipated due to the use of mixed grades of coal in producing coke during the months to follow.

Coke Is Moving Better

Cincinnati, July 22.—A steady pressure is being exerted to distribute coke shipments so that no particular producing district will be inconvenienced to any considerable extent. A number of shipments of both furnace and foundry coke are being distributed to firms that are engaged on essential war work. Consumers that cannot show that their work is essential probably will be able to obtain but little fuel after a short period. Shipments from all districts are above the average. The quality of both furnace and foundry coke is not up to the ordinary standard, but foundrymen state that it is above the average during the past few weeks.

No Free Coke in St. Louis

St. Louis, July 20.—According to dealers in the St. Louis district the surplus of furnace and foundry coke looked for about this time has failed to materialize. Ovens in the Connellsville district and in Virginia which supply this market continue to contract for the last half of 1918 and to a small extent into the first quarter of 1919, but only on a basis of first half supplies, and they are offering nothing in the way of free coke.

Watching Production Closely

Birmingham, Ala., July 23.—The production of coke in Alabama is being watched closely, so urgent is the demand. The output at the coal mines is not coming up to expectations and the coke tonnage is almost to the limit, with what ovens there are available and the usual need of betterments from time to time. Appeals are still being made to the employes at coal mines to give every effort towards a big production. C. H. Nesbitt, chief state mine inspector, predicts that the production of coal in Alabama this year will show a falling off of at least 2,000,000 tons if there is not a decided increase in the output during the last five months of the year. The coke producers are saying nothing as to new contracts, being apparently well loaded up on orders to care for every ton of the product they can get out. The Sloss-Sheffield Steel & Iron Co. is taking up options on a large tract of land in the vicinity of North Birmingham and Boyles on which to build its $5,000,000 by-product coke oven plant.

Cast Scrap Demand Grows

Foundries Unable to Get Pig Iron Using More Old Material—Pressure for Steel Making Scrap Heavy

FOR COMPLETE SCRAP PRICES SEE PAGE 236

Chicago, July 23.—Steel and malleable grades are still in active demand and the supply falls short of filling requirements. Cast iron scrap is becoming increasingly essential and a heavy inquiry is slowly developing. This is due to the fact that foundries operating on nonessentials are finding difficulty in securing pig iron and therefore are turning to scrap to cover so far as possible their immediate needs. Practically all miscellaneous sources are drained at this time, and the shortage is becoming stringent. The Chicago, Rock Island and Pacific railroad is offering 2850 tons, of which 700 tons is No. 1 and 550 tons is No. 2 railroad wrought. The Chicago Great Western has 350 tons of scrap available. The Chicago, Burlington & Quincy is offering 2500 tons, in which is included 400 tons of No. 1 and 400 tons of No. 2 wrought.

Cast Scrap Scarce In East

New York, July 23.—Scrap is flowing steadily in this district and were there enough labor to handle it, the shortage would be considerably less noticeable. Practically all grades are obtainable in quantities as great as can be handled, with the exception of cast scrap. This grade is badly wanted by foundries in this district and the demand is much greater than the supply. The shortage of cast scrap is due largely to the lack of building work and to the shortage of machine tools and equipment of all kinds, which forces manufacturing plants to repair and keep their apparatus in operation far beyond the stage where it normally would be sold as scrap. The most plentiful grade in this district is shell turnings, of which large tonnages are being turned over. All kinds of borings and turnings are plentiful.

Scrap Shortage More Serious

Pittsburgh, July 23.—The shortage of the leading grades of scrap has grown more serious. This is especially true of heavy melting steel. No signs of improvement are in prospect. Efforts of the scrap committee to locate tonnage is said to have resulted in no sizable lots being uncovered. Dealers have either entirely or nearly exhausted their stocks and they report they cannot replenish them to any appreciable extent. The tonnages they pick up pass quickly to consumers. Buying from other districts is more common and involves the paying of freight differentials as well as the commission of 3½ per cent. This practice does not promise to become extensive under existing conditions because dealers in outside districts have no difficulty in selling to nearby consumers, in which case adjustments with regard to rejections are much less expensive than they are when shipments are made to more distant points. The scarcity of scrap induces consumers to take poorer qualities than they would ordinarily and, while the price itself may be lower, costs of manufacture are increased as a result, because the material has to be sorted and loss also is sustained in its use. Wrought steel turnings resulting from shell production are being bought at $19 or less, but this comparatively low initial cost is overcome by reason of the quantity of this light material that is lost by being blown out of the blast furnaces. The only grade that appears to show any weakness is cast scrap for the cupola, the government price of which is $34. This grade is quoted at $32.50 to $33.

Scrap May Be Easier

Buffalo, July 23.—The Buffalo scrap market is easier than it was last week. The demand for heavy grades keeps up, and just at present there are a number of requests for cast scrap. Several large inquiries are understood to be still unsatisfied in this district. Shellmakers are producing large tonnages of turnings and shell ends and while this scrap is being picked up as freely as made, present indications are that there will be a softening of the market in regard to this grade after consumers have satisfied their immediate demand. The government has been holding up some of its own turnings. One local consumer has been taking in large tonnages of this grade.

Easier to Sell Than to Buy

Cleveland, July 23.—The demand for scrap in Cleveland territory shows no sign of letting up. Practically without reservation, every ton dealers can put on the market is finding a ready taker. Open-hearth interests continue to snap up all of the heavy melting steel they can lay their hands on. Turnings and borings also are quite active and fairly heavy tonnages are changing hands. Cast scrap is not keeping pace with the activity of other scrap grades. Car supplies are fair, some shipments being made speedily while others, for unexplained reasons are delayed. As has been the case for sometime past, dealers are able to sell scrap much more readily than they are able to buy it, though producers are not holding on to supplies quite so firmly as in the past.

Foundrymen Are Studying

Cincinnati, July 22.—In ordinary times the existing demand for scrap would develop a run-away market. The maximum prices allowed have not been reached on a few grades of scrap but the scarcity of all kinds of metal that will take the place of pig iron is more marked than ever before. Foundrymen are studying carefully how to increase their scrap mixtures so as to use the lower grades of scrap.

Little Scrap in Sight

St. Louis, July 20.—The demand for virtually all grades of scrap iron and steel continues active, with stocks scant and little new material coming into sight. All mills are paying maximum prices, plus commission, for steel. Consumption is high, and according to some authorities, the heaviest since war activities were inaugurated. The most urgent demand is for rerolling rails, which it is almost impossible to secure. Each passing week accentuates the growing scarcity of scrap, and recent efforts on the part of melters to annex tonnages indicates they appreciate the fact that predictions of a real scarcity during the coming winter and fall are no idle speculation. Very little material is coming in, and St. Louis, which ordinarily is a heavy producer at this season, has contributed poorly to the general store. Railroads in the southwest are offering less than ever before and are not expected to improve in this respect in the near future. The only railroad offerings before the market this week were 11 cars by the St. Louis & San Francisco, which were disposed of at private sale.

Stock in South is Low

Birmingham, Ala., July 23.—Stocks of scrap iron and steel are low in the south and dealers say that there is little inducement to make much effort to replenish them. The market is very quiet. Local consumers are still offering prices much under the government schedule and claim to be entitled to some consideration on the freight charges. No new con-

tracts are heard of and the larger dealers expect to clear off practically all of their old contracts before Aug. 30. The announcement that there will be no change in the price schedule for the third quarter of the year has not caused any special comment.

Scrap Steel Scarce in Boston

Boston, July 22.—An increasing shortage in some grades of scrap, particularly steel and turnings, is reported by the large Boston dealers. The scarcity began to be felt three weeks ago and now is more marked than ever. A large volume of scrap is being moved and prices are right up to the government maximum. Labor is scarce and is expected to remain so during the summer. At present the yards are being worked at about 60 per cent of capacity.

All Scrap Scarce

Philadelphia, July 23.—The demand for heavy melting steel continues active owing to the existing shortage. There is also considerable inquiry for No. 1 forge scrap and bundled sheet scrap. The latter is now quoted at $28.20, Philadelphia. Cast scrap which has been eagerly purchased during the past few months because of the shortage of pig iron is now scarce. It is difficult to sell unguaranteed low-phosphorus scrap. Decreased offerings are expected to result from the institute's recent announcement, as quantities of material have been previously offered and sold as unguaranteed low-phosphorus scrap which had no place under the low-phosphorus schedule. The labor problem at scrap yards has been taken up with the war labor board and an early solution is hoped for.

Ore Moving Fast

Cleveland, July 23.—Iron ore continues to move down from the northwest at a record-breaking pace. Indeed, so much ore has been handled already this season that plans are now being laid for utilizing the greater part of the downbound capacity for grain toward the end of the season. Freighters are receiving excellent dispatch both at upper and lower lake ports. Some inconvenience has been caused by the use of old, flat-bottom cars for bringing coal to loading ports on Lake Erie. These cars, when loaded with ore on the return trip, cannot be unloaded on the usual type of ore trestle and some delay is resulting. Little doubt exists that the July, 1917, iron ore movement, which was 10,241,633 tons from Lake Superior ports, will be exceeded this month.

Rod Tonnage is Placed

Contracts for 25,000 Tons for Export Reported—All Grades Semifinished Steel Continue Scarce

Pittsburgh, July 23.—Contracts for 25,000 tons of wire rods for export are reported to have been placed by the war industries board but the names of the makers getting the business have not been made known in the Pittsburgh district. It is said that 14,000 tons will be shipped to France and 6000 tons to Italy. Makers in this district have either been out of the market altogether or have only limited lots for their regular trade. The supply of billets and sheet bars is far below requirements. Makers are furnishing bessemer steel freely on contracts owing to their inability to get open-hearth material for rolling. Sheet manufacturers are extremely short of sheet bars and even some tin plate makers have to curtail operations occasionally because of a scarcity of steel.

Philadelphia Allocations

Philadelphia, July 23.—Several round tonnages of open-hearth billets are up for allocation. Difficulty is being experienced in placing this business because the mills need their semifinished steel. A few sales of small tonnages of off heats of semifinished steel unsuitable for government work have been made. This week's allocations of semifinished steel include 4000 tons of bessemer wire rods to the Cambria plant of the Bethlehem Steel Corp. Two thousand tons of this material will be shipped to England and 2000 tons to France.

Shell Bar Production Short

Chicago, July 23.—Mills are operating about 75 per cent on shell bars and a shortage still exists. Some further shell bar allocation is expected as soon as mill capacity was found for only a portion of several thousand tons about which inquiry was made last week.

Get More Business

Pittsburgh, July 23.—Makers of both hot and cold rolled strip steel report that there has been an increase in orders. They are operating at about 70 per cent of capacity, the restriction being due to a lack of steel and are engaged almost entirely on direct and indirect government work. Demand from the automobile trade for cold rolled strip steel is light. It probably will not increase much in view of the position of the war industries board with regard to permitting makers of passenger cars to get an increased amount of steel.

New Shell-Steel Orders

Youngstown, O., July 24.—Further orders for shell steel estimated to be around 125,000 tons are being allocated by the government. The mills here have been awarded fair-sized tonnages and rollings will begin within a week. Makers welcome this new business as orders for shell steel on their books were becoming low. Nearby forgers have a surplus of steel waiting to be forged and are unable to handle any further incoming stock. This, it is said, has been the reason for the government's delay in placing further tonnages of shell steel. The Canadian shell-steel order which a few of the mills have been rolling lately is nearly completed and will leave the mills free to handle the new government allotments. Sheet bars remain scarce.

Regulations No Hindrance to Boston Jobbers

Boston, July 22.—Iron and steel jobbers in this section have no complaint about the government regulations under which they have operated the past few weeks. This is due to the fact that it was realized that the day was coming when the government would step in and define essentials and nonessentials. The movement of the various kinds of stock relatively is free. There is some confusion over some of the government's regulations but common sense is being shown in interpreting them.

Jobbers Stocks Lean

Chicago, July 23.—Jobbers are experiencing difficulty in filling their requirements. Misunderstanding relative to the replacement provision in the steel director's announcement is evident, and some still expect their full stock to be replenished. Others expect that the mills will replace stocks at once, when conditions do not warrant such an assumption. Some inquiry has been made by jobbers for manufacturers who are fully entitled to priority, but in this case the mills hold the order must come direct from the manufacturer, not through a jobber.

Iron Bar Price is Sliced

Railroad Administration Offers Sante Fe Tonnage at Cut of $10— Steel Bar Demand Remains Heavy

St. Louis, July 22.—New competition is in sight for the makers of iron bars. The railroad administration representing the region centering in Chicago, St. Louis and St. Paul is contemplating offering the excess production of the Santa Fe mills at Corwith to the trade. It is thought that this source will supply about 200 tons a week over the needs of the Santa Fe and this amount may be sold direct to consumers. These bars have been offered by the western regional director at 3c, although the official government price is 3.50c. Hard bars are in strong demand but the larger mills are unable to supply any at the present time, as orders are running in excess of production. Some smaller mills could handle additional business. Reinforcing steel is slow.

Mill Schedules Vary

Pittsburgh, July 23.—Direct and indirect government work is being turned out almost altogether by makers of steel bars. The mills are operating at varying rates, their schedules being adjusted to demands as they come in and whenever they run light, steel is diverted from them to more important work such as plate production. Iron-bar makers are operating heavily on direct and indirect government work but some of them can take a limited amount of commercial business.

Nuts and Bolts Strong

Chicago, July 23.—Steady demand from scattered sources is apparent for nuts and bolts. Implement, tractor and miscellaneous industries are buying steadily, and car builders are heavy inquirers. The large requirements of the quartermaster general's department are still under consideration and except for the first order of 25 per cent of the total amount needed, no further inquiry has developed.

Hoop Demand is Good

Pittsburgh, July 23.—Good demand exists for hoops and bands, particularly the former. Makers have all the business they can handle and some are handicapped by a shortage of steel.

Shafting Makers Are Busy

Pittsburgh, July 23.—Makers of cold rolled shafting are kept busy on direct and indirect war orders, although some of them could increase their output of small sizes considerably if they could get more steel.

129,000,000 Bolt Order Going Through

Pittsburgh, July 23.—Makers of nuts, bolts and rivets report that good sized orders for direct and indirect government work continue to be placed. Practically 90 per cent of their operations are devoted to this kind of manufacture. It is understood that the government has completed the distribution of its order for 129,000,000 bolts, and that deliveries have been made on an appreciable portion of this large allotment.

The Strange Story of Eighty Tons

I AM 80 tons of steel and some day I hope to do my part in putting a quietus on the kaiser, but I have been shunted around so much that I am beginning to despair. First I was sent to Massachusetts, where it was discovered that I was not exactly what was wanted. Then those who sent me to the Bay State found someone in Ohio who wanted to help me realize my ambitions. But they, like the New Englanders, found they made a mistake in taking me on, for I am square and they wanted round forgings. So while I was on my way from Massachusetts to Ohio, I was again offered for sale and the man who thinks I am going to be of service to him is another Massachusetts manufacturer. I am now lying in a freight car somewhere in America, but I shall soon be moving back east again. I am wanted so badly now that my new owner is going to not only pay my fare back to Massachusetts from Ohio, but also what was spent in sending me out from Massachusetts in the first place. I have been traveling on a rate of 35cents a hundred pounds, so, in addition to my value, it is costing my new owner something like $1000 to $1100 to get me. Guess he must be pretty badly in need of steel forgings, but he also wants to get the kaiser and he figures, no doubt, that I can help.

Sheet Mills Slow

Operating at 65 Per Cent Capacity— Hot Weather Affects Output

Pittsburgh, July 23.—Sheet production for the entire industry is estimated at 65 per cent of capacity or somewhat less. Some makers are operating at not more than 50 or 55 per cent of capacity. Output, however, is becoming more uniform as a result of the request of J. Leonard Replogle, director of steel supply, that sheet mills limit their operations to 75 per cent. Some have been operating as high as 85 per cent. The request of Mr. Replogle was made in order to bring about more uniform production and this is being done by means of allocating sheet bars. This will mean neither more nor less steel but is resulting in mills which have been operating at more than 75 per cent getting a smaller tonnage of sheet bars, and mills that have been operating at lower rates getting more steel. The conference held last week between the war industries board and representatives of the National Automobile Chamber of Commerce regarding steel supplies has left the situation unchanged. It is understood that Mr. Replogle told the automobile manufacturers that their supplies for the production of pleasure cars would be restricted as originally outlined. It is understood the automobile manufacturers asked for a regular supply of sheets and other steel, based on a percentage of their previous supplies. It may be that the war industries board will afford them small supplies as will be required to work up the comparatively large stocks which they have on hand. It is known that a comparatively small tonnage is all that would be necessary for a rather heavy production of cars, for which the makers now have most of their stocks on hand.

Hot Weather Affects Output

Youngstown, O., July 24.—Sheet production was greatly curtailed the first part of the week on account of the hot weather. However, the mills are rolling as near to 75 per cent as possible. Sheet bars continue scarce and the leading producer contemplates operating only a few units next week. The smaller makers are depending largely on the government for their source of sheet bars. The whole sheet bar situation reverts back to pig iron which is extremely scarce. According to the government's ruling, makers of pig iron are not permitted to buy any metal from outside furnaces. This is causing a curtailment in sheet-bar production at the leading maker's plant where a furnace is undergoing relining. No large government orders for sheets have been placed among valley mills for several months. Many small orders, however, come out

weekly which if aggregated would amount to several thousand tons. The majority of these orders are from jobbers and indicate that the latter are taking care of buyers doing war work. Frequently a few hundred tons of black sheets are shipped to a manufacturer of electric automobiles who is building Red Cross ambulances under government contract.

Tin Plate Mills Make Hot Weather Records

Pittsburgh, July 23.—Despite the hot weather workmen in tin plate mills are remaining at their tasks and production is being maintained at a high rate. Continued warm weather, however, may be expected to affect output and a reduction in tonnage is expected. The American Sheet & Tin Plate Co. last week operated its tin mills at 98 per cent of capacity, the rate on Monday, Tuesday and Wednesday being 100 per cent. It also was 100 per cent yesterday. The company has 240 tin plate mills. This remarkable showing is attributed largely to the labor efficiency plan recently adopted by the company, by which the employes pledge themselves to give their full time to their work and to use their efforts to induce their fellow workmen to do likewise for the period of the war. It is believed that more than 10,000,000 base boxes of tin plate will be produced during the current quarter. Manufacture is confined to tin plate for food containers and orders from this government and the allies.

Government Order Feared

Youngstown, O., July 24.—Tin plate production among valley mills fell off considerably at the beginning of this week due to the hot spell. Makers are much alarmed over the government ruling which is expected soon to the effect that makers will not be permitted to sell more than five tons of coke tin plate to a single buyer without a priority, first making sure that the material is to be used for war work either directly or indirectly. It is pointed out by some producers that the excess rollings and wasters are extremely heavy. A buyer is willing to take 10 per cent of the wasters which are made while his order was being rolled but will refuse to take 15 or 20 per cent. If this ruling becomes effective, says one producer, practically the only solution will be to pile the wasters in the stock room.

Now See Plenty of Plates

For All Essential Purposes—Problem One of Distribution—Another Mill to be Built in East

Philadelphia, July 23.—Well informed circles in the east are now convinced that enough plates are being rolled for essential purposes and any difficulties which may be experienced are due to incorrect distribution. Much remains to be accomplished along the latter line, however. Eastern plate production is to be further increased by the erection of another new mill. Plate business during the past week was confined entirely to allocations involving heavy tonnages.

Stocks Being Surveyed

Cleveland, July 23.—It is becoming more and more apparent that supplies of steel are not going to be any too large for the government's requirements, in which must be included not only those products that are going into munitions and other war work, but also railroad needs and those of the allies. Leading manufacturers in co-operation with the American Iron and Steel institute, therefore, are making a careful survey of consumers' stocks of plates, shapes and bars in order to assure an equitable distribution of supplies. In this survey, information is sought as to how long the individual user can run on his present stocks and how much he can cut future requirements and still operate. This information will govern the policy to be pursued by the manufacturers in the matter of orders and shipments. The Cleveland market on rolled steel presents little in the way of new features. In railroad materials, there is an inquiry on the market for 500 tons of 100-pound rails from the Cleveland Railway Co., but this is still seeking takers.

Heavy Orders For Plates

Youngstown, O., July 24.—Heavy government orders for plates have been placed among valley mills. One order is extremely large having a subdivision approximating 4000 tons under one specification. The plates are to be used fo rfabricating the ends of box cars. The orders placed in this district are part of the 50,000 tons of plates now being allocated by the government.

Production Sole Problem

Chicago, July 23.—Plate production, though much accelerated, is still lagging behind new orders. Ship plates continue to furnish the main source of pressure and every effort is expended to get production. The demands for standard rails also are of such nature that wherever possible other essential work is set aside to permit of rails being rolled. The leading interest again has every one of 42 open hearths in operation at one plant and its blast furnaces are working to capacity. Inroads are being made on the car plate tonnage alloted, and top production is near attainment. The fuel situation, although not exactly a hampering factor at this time, is occasioning concern.

Operate At Capacity

Pittsburgh, July 23.—Plate mills are operating at capacity on direct and indirect government work and it is said that shipments to some shipyards have moved so fast that steel has been piled. Both shipbuilding and plate making capacity is being increased, and just as present, it looks as though the steel production exceeds the consuming capacity of the shipyards. It is desirable, however, to allow stocks to accumulate at the yards to a certain point. Even now some yards are short of steel and none are congested, although the general situation is much improved.

Valley Plants Going Some

Youngstown, O., July 24.—Reports for the week ending July 20 show that in the Mahoning and Shenango valleys, by-product coke ovens were operating at 96 per cent, blast furnaces at 90 per cent, open hearths at 89 per cent and bessemer plants at 86 per cent. Five furnaces are being relined in this district, which accounts for the showing of only 90 per cent for blast furnace operation. Approximately 880 tons of steel is piled in the yards of the various plants in Youngstown due to embargoes. It is pointed out that if the consignees were not so lax in their efforts to obtain shipping permits, the embargoed steel would clear the mill yards inside of a week. Outbound cars are moving freely. Tin plate makers say the car supply is adequate and that they experience little trouble in getting cars in which to ship tin plate.

The Carnegie Steel Co. has lighted an idle Clairton blast furnace and now has 56 of its 59 stacks in operation.

Structural Lettings Shrink

June Shows Falling Off Compared With May—New Shipyard Near San Francisco Will Need Big Tonnage

New York, July 22.—The volume of new structural lettings in June again showed a falling off as compared with the preceding month. The reports of the Bridge Builders and Structural society show that during June 56 per cent of the entire capacity of the bridge and structural shops of the country was contracted for. Comparative statistics on this phase of the industry follow:

Month	Per cent	Approx. tonnage
June, 1918	56	100,800
May	60	108,000
April	64	115,200
March	47	84,600
February	55	99,900
January	53	95,400
December, 1917	121	205,200
November	77	138,600
October	61½	110,700
September	29	52,200
August	38	68,400
July	41½	74,700
June	47½	85,500
May	56¼	102,000
April	61	110,000
March	68	122,000
February	59	106,000
January	61½	119,000
December, 1916	86	148,000
November	78	134,000
October	77	133,500
September	52½	99,400
August	64	112,600
July	47½	83,600
June	58	100,000
May	80	137,000

The biggest structural project which came up in the market during the past week involved 2000 tons for 30 derricks to be installed at the new government shipyard which the Bethlehem Shipbuilding Corp. will erect at Alameda, Cal. These derricks are to be fabricated by the Edward F. Terry Mfg. Co., New York. An enormous tonnage of fabricated plates and shapes will be required for the buildings and ways at this yard. With the exception of the derricks for the Alameda shipyard, structural lettings in the east during the past week did not run much in excess of 1000 tons, and new projects which have come up for bids are insignificant.

Government Placing Tonnages

Pittsburgh, July 23.—Fabricators are taking only direct and indirect government business and are getting large orders, especially from the Emergency Fleet corporation. Makers of machine tools also are taking requirements for extensions to their shops. The Pennsylvania railroad has placed 800 tons with the McClintic-Marshall Co. for a bridge at Mineral Spring, Clearfield county.

Lettings Are Small

Cleveland, July 24.—Lettings are small. None aggregate over 100 tons and the majority are 50-ton jobs. The New York Central railroad recently placed contracts for two or three small bridges. It also has placed several small repair jobs. In this territory as elsewhere, construction work must have the government's approval.

New Building Is Inactive

Chicago, July 22.—All building work is practically at a standstill. Knowledge of steel conditions serves to deter all future undertakings and except for essential buildings and occasional bridge work, structural material is off the market. The railroads furnish inquiry for occasional tonnages for turntables being built in connection with new shops and a few new bridges are under consideration. It is commonly accepted that new bridge work will be a minimum as only those structures which are imperatively needed will be built. Repairs and additional strengthening of existing bridges are supplying a demand for occasional tonnages. The Symington munitions plant is the only undertaking of size in the west at this time. Inquiries are in the market for the new main forge shop which will require about 2000 tons of structural.

CONTRACTS AWARDED

Bridge fo. Pennsylvania railroad at Mineral Spring, Clearfield county, Pa., 800 tons, to McClintic-Marshall Co.

Highway bridge over Santa Margarita river near Oceanside, Cal., for San Diego county, Cal., 217 tons, to an independent shop.

Miscellaneous material for the Kansas City Southern Railway Co., 203 tons, to the Kansas City Structural Steel Co.

Thirty-nine bridges for Boston & Maine railroad, 1900 tons, Boston Bridge Works.

Storehouses and magazine buildings for government at Hingham, Mass., 375 tons, to the McClintic-Marshall Co.

Bridge for Central railroad of New Jersey, 170 tons, to the Phoenix Bridge Co.

Gunhill road bridge, New York, for New York Central railroad, 160 tons, to American Bridge Co.

Thirty derricks for new government shipyard to be erected by Bethlehem Shipbuilding Corp. at Alameda, Cal., 2000 tons, to Edward F. Terry Mfg. Co., New York.

CONTRACTS PENDING

Two bridges for Philadelphia & Reading railroad, 100 tons, bids being taken.

Steel for bridge repairs for New York central railroad, 350 tons, bids being taken.

Buildings and ways for new government shipyard to be erected by Bethlehem Shipbuilding Corp. at Alameda, Cal., large tonnage, indefinite. Plans now being drawn.

Directors and stockholders of the Bon Air Coal & Iron Corp., Nashville, Tenn., have been making a tour to inspect their properties preliminary to selecting a site for a Semet-Solvay plant for the manufacture of coke and its by-products. The corporation is acting in conjunction with the government.

Wire Products Dull

Trade Waits For Change In Jobbers' Replacement Regulations

Cleveland, July 23.—Business in merchant wire products is marking time at present. The trade is waiting for a new ruling from Washington which it was thought would be out by this time and which is expected to clear up some doubts that exist as to methods of replacing jobbers' stocks. Under present regulations if a jobber fills an order for a certain commodity, he is entitled to replenish only the line from which the sale has been made. This works out all right in the cases of the essential lines, for which a ready market exists, but the regulations as they now stand prohibit the jobber from replacing what might be called a dead class of goods with an active one. Thus, for example, a jobber might be overstocked with 20-penny nails with diamond points or sunken heads. Under present conditions he cannot replace this slow-selling stock with an equal tonnage of something that is wanted. He is obliged to either fill up again with something that may not be wanted for an indefinite period or go without. The new regulations are expected to modify the existing ones in this respect. Meanwhile, such business as is doing, is going along the lines laid down by the war industries board some weeks ago. The mills are not taking on much new business, for the shortage of basic steel still restricts production. No non-essential business is being taken for the reason that the mills find it difficult to keep abreast of essential needs.

Open Bids For Nails

Pittsburgh, July 23.—A large independent maker in this district is reported to have been the lowest bidder on 27,420 kegs of wire nails, 16d to 60d, and 2500 kegs of staples for the general engineer bureau of the war department for shipment to France. The tenders were opened at Washington last Friday. While demand for nails is heavy and some makers are operating greatly below capacity, others are in a position to take more business. The same situation applies with regard to wire, of which the government is a heavy buyer. Jobbers in wire and wire products are

complaining about the ruling of the war industries board that replacements are to be made only where jobbers have shipped on direct and indirect war work, to which no objection is made, but are restricted to shipments made during the preceding month. Stocks which have been greatly depleted cannot be built up again under this ruling. Some mills are supplying jobbers with Class C material without pledges being filed by the latter and this is said to have the approval of the war industries pending the full operation of its ruling.

Cast Iron Pipe is Slow

Chicago, July 23.—Normally orders for cast iron pipe would be from 60 to 90 days in advance of deliveries, but due to the restricting effects of the war, few municipalities are carrying on waterworks extensions. A fair demand is coming from manufacturing concerns handling war work, but this constitutes only a small portion of the normal business. Production is hampered to some degree by labor conditions. Shipwork in the east and new nitrate and powder-plants in the south offer inducements to labor that pipe manufacturers are unable to meet. The output, restricted as it is, however, is adequate to the demand. Kansas City, Mo., has let about 2500 tons to the United States Cast Iron Pipe & Foundry Co.

Pipe Maximum Shaded In East

New York, July 22.—Contractors who are working on government jobs placed orders for several hundred tons of cast iron pipe during the past week. This constituted most of the business in this district. Private buying is of small proportions and there have been no public lettings to speak of. While the government maximum delivered price on 6-inch class B pipe at New York now is $62.93, northern foundries generally are asking $59.50 f.o.b. foundry, which figures out to around $61.75, delivered at New York.

Heavy Demand Continues

Pittsburgh, July 23.—Heavy demand continues for iron and steel pipe. Oil country interests are taking large tonnages and housing work for the navy and war departments also involves big lots.

Simultaneous with the installation of shower baths and other conveniences for its employes, the Jeanesville Iron Works, Hazelton, Pa., notified its drop forgers that their wages were increased from 30 and 50 cents an hour to 40 and 65 cents, respectively.

No Chance to Import Ferro

War Trade Board Remains Adamant Although English Willing to License Shipments—Ferrosilicon Active and Strong

New York, July 22.—The war trade board is adhering to its original intention not to allow any more importations of English ferromanganese which was not shipped from England prior to May 13. An importer, who a week ago asked for a permit to import 650 tons for which the English government had issued an export license, has received a reply from the war trade board stating that such a permit cannot be granted. In some quarters there is a lack of understanding as to the necessity for rigid adherence to this ruling, since it is felt not only that the country needs ferromanganese, and that England is the best judge of the tonnage that she can spare, but also because there apparently is plenty of vessel space available in ships returning from England to this country.

Ferromanganese and spiegeleisen for the present are in poor demand. There is no inquiry of any consequence for these metals. Among sales of ferromanganese during the past week was one of 80 per cent metal, which went at $295, delivered. Seventy per cent ferromanganese continues to be quoted at $250, delivered. Spiegeleisen continues to be held at $75 furnace for all deliveries, for 16 per cent metal, while a premium of $3.50 is asked for each unit above 70.

Several thousand tons of 50 per cent ferrosilicon have been sold during the past week for delivery over the next three to four months. The situation in this metal is much stronger than it was a month ago, as the supply is well sold up and a number of makers will have no tonnage to spare for several months. The market continues to be quoted at $155 to $165 delivered for spot shipment, while contracts may be quoted at the same price.

Ferrochrome reflects very little activity. Most of the current business involves 60 to 70 per cent metal containing 6 to 8 per cent carbon, and on this material, the price generally is 35 cents per pound at the furnace, although smaller sellers in some cases have done as high as 37 cents. Metal containing 4 to 6 per cent carbon may be quoted at 40 to 42 cents per pound at the furnace.

The ferrotungsten market generally reflects a strong tone, although prices are subject to variation. In general, the market on 70 per cent metal may be quoted at $2.25 to $2.35 at the furnace. Some sellers are willing to shade $2.30, while in some cases, $2.40 is asked. Ferrotungsten for spot shipment is scarce, and most of the current business is for delivery in August and September. Makers, as a rule, are anxious to close over long periods ahead, since the situation is uncertain with respect to prices on tungsten concentrates.

Pittsburgh Trade Quiet

Pittsburgh, July 23.—Quietness prevails in the market for ferroalloys. Small lots of 70 per cent ferromanganese, which is quoted at $250, delivered, are being sold. One inquiry is out in this district for 150 tons of this alloy. Light inquiry is being made for 16 per cent spiegeleisen, which is quoted at $70 to $75, furnace, for either spot or last half shipment. The market for ferrovanadium is more active. Some sellers are quoting this alloy at $5.50 a pound, furnace, for 33 per cent contained vanadium. Demand for ferrochrome is not heavy. Offerings are being made at as high as 50 cents a pound, furnace, for 35 per cent contained chromium, although it is reported that lots may be obtained at lower levels. Chrome ore is being offered by some makers at $1.30 per unit of 33 per cent chromic oxide, with 2½ cents up and down.

Occasional Buying Predominates

Chicago, July 23.—Steady buying of ferromanganese continues, but in quantities that indicate consumers have not accumulated stocks and are depending upon a hand-to-mouth supply. Some preliminary inquiry indicates that buying for the fourth quarter will soon ensue, and that by reason of the policy pursued at the present time this last quarter buying will be heavy.

Fluorspar Doing Little

Cleveland, July 23.—Little business is going at present in fluorspar; this condition is not due entirely to either a lack of demand or a lack of supplies, but rather to a combination of these circumstances, both needs and supplies being light at present. The mines have not yet opened their books for 1919 business. Prices, consequently, are not much more than nominal at about $30 a ton at the mines for gravel spar.

U. S. May Not Need 20,000,000 Tons

War Industries Board's Statement of Last Half Steel Requirements Modified by Explanations—But Government's Demands Will be Prodigious—Outlook for Nonessential Producer None too Rosy

WASHINGTON, July 23.—While the estimated requirements of the steel-consuming departments of the allied and American governments may exceed 20,000,000 tons for the present month and the remainder of the calendar year, as stated by an official of the war industries board to newspaper men in a conference last week, the actual unfilled tonnage now on the books for the same period aggregates little more than about half of that figure. The unexplained statement that 20,000,000 tons must be furnished this year as against the best known output of the industry of 16,500,000 tons in any like period, would indicate that the demands of the United States and allied governments themselves show an immediate shortage of 3,500,000 tons, to say nothing of the requirements of the more essential manufacturing industries of this country. As a matter of fact, part of the 20,000,000 tons includes the needs of some commercial industries essential to the economic status of the nation. The fact that the estimate does contain some of the essential industrial tonnage may indicate the government intends to see that those requirements are filled. Official confirmation on this point is lacking, however.

Overstatement Admitted

After the war industries board had declared the approximate total tonnage to be as large as stated, an official of the shipping board and another in the navy said their own estimates were of necessity somewhat overstated and suggested the same might be true of other departments. It is almost impossible for any department to actually determine its steel requirements.

The statement of Mr. Replogle at the banquet at the May meeting of the American Iron and Steel institute contains food for thought. Mr. Replogle declared outstanding government and allied orders on the books of the mills of the country and on his own records, which again included some commercial tonnage, at that time aggregated 16,800,000 tons. How that figure has since grown has not been made public but a few more millions have been added. It is obvious, however, that in the same time mills have been producing steel at a heavy rate. In one period the rate showed an annual capacity of more than 38,000,000 tons.

Only 11,000,000 Tons Booked

Even figuring the tonnage on the books now at 20,000,000, which happens also to be the approximation given by the board as government requirements for the last half of 1918, it should be borne in mind that the unfilled tonnage is not all for 1918 delivery. Much of it is for 1919. It may be stated that the actual unfilled orders for the remainder of the calendar year amount to 10,000,000 or 11,000,000 tons. The 16,500,000-ton production figure given by the war industries board is not a fair comparison. The total, as representing the best half year in the history of the industry, is based upon statistical records prior to the present year. It is obvious that both ingot and finished material capacities have been steadily increasing, because of the pressure of government and allied requirements.

Shipbuilding and ordnance requirements alone have absorbed fully 25 per cent of normal peace time capacity. The railroads, whose tonnage requirements now are carried as "government", either directly or indirectly were in the market normally for approximately 50 per cent of the steel output. Orders for these consumers today are unusually heavy, due to the delay in getting into the market. The tonnages which they are not requiring, and which are not going into ships, projectiles, cannon, etc., now are used for war-time production of machinery, construction of cantonments, overseas railway lines, etc. It is evident that were all requirements, including direct and indirect war needs, essential domestic and commercial tonnages, and orders from all other consumers accepted by the mills, the demand would be in excess of any possible hope of production.

Auto Makers to Fight

The fight evidently to be made by the pleasure car manufacturers for allotments of steel greater than 25 per cent of the 1917 consumption, is only one of the many being waged for the preservation of industries generally. The conservation and priorities division of the war industries board are working to effect curtailments in steel consumption in order that the war needs may be served. There are sufficient laws on the books to force mills to speed up production to meet essential needs, but these laws are not to be invoked except in extreme instances. The plant of the war industries board is to get manufacturers and industries to agree to manufacture curtailment plans and to pledge essential war production.

Demand Balance Sheets

Youngstown, O., July 23.—The action of the Mahoning county auditor in asking each corporation operating within his jurisdiction for a copy of its last balance sheet previous to tax day, is arousing comment. Never before has such a request been made. For what reason the request is made and on what statutory grounds, are matters of uncertainty. It is pointed out that the state law merely requires that property be returned for taxation on the basis of its value as between a free buyer and free seller and consequently the statute does not require that balance sheet copies be furnished auditors. Leading steel interests in this district are inclined merely to await further developments.

Makes 5000 Rifles Daily

A new record in rifle production was made in June at the Eddystone rifle plant of the Midvale Steel & Ordnance Co. The month's output was slightly in excess of 130,000. On the basis of 26 working days this is an average of 5000 rifles a day. The production for the month exceeded all previous records. On one day in June the plant is reported to have turned out more than 6000 rifles. The slogan of the company is 1,000,000 rifles by Dec. 31, 1918, and at the present rate of output this figure will be reached in advance of the date set.

Statistics for factory employes in New York state show that they numbered about 600,000 in March, 1918, an increase of 1 per cent since March, 1917.

Labor Slackers Feel the Big Stick

Regulations Being Put in Effect in Connellsville Region Will Provide Check on Every Man—Tonnage Must be Increased—Army May Take Shirkers—Ban on Loafing

PITTSBURGH, July 23.—From now on the pathway of the labor slacker and the man who considers four days effort a week's work will be a thorny one in the Connellsville coke region, if plans being matured by the district representative of the United States fuel administration, C. E. Lenhart, are carried out as there seems every prospect of their being. The completed regulations of the fuel administration's labor regulating system are more drastic in their scope than first contemplated. Not only does the order of the fuel administrator require reports from operators of men who have failed to work a full six-day week, but the man who is absent from the operation a portion of one day comes under the provisions of the regulations.

An increase in production by direct government supervision of the workmen and the securing of definite information to place the cause for the present irregularity on the part of a percentage of coke workmen is the double purpose of the fuel order. No doubt exists either in the minds of operators or fuel officials that direct supervision of their work by the government through the fuel administration will have a tremendous effect in stiffening the morale of the men through the hot summer months and that every man in the region will do his utmost to keep his name off the "slacker" list.

Straight Talk

The complete text of the order to the operators, the most drastic put into effect in the local regions since government regulation was established, follows:

"You are requested by the United States fuel administration to furnish the information asked for on slips, to be filled out each day beginning at once and mailed in an envelope to the United States fuel administration, Uniontown, Pa., showing the check number, name, address and other information about every man on your payroll, who is away from his regular work a part or all of one day. Please note that a reason for his absence from work must be given. After you have reported a man once it will only be necessary to give his check number, his name and the name of your company and the reason he is idle and any other comments which will throw light on your labor condition.

"When a man leaves your employ kindly send in a slip so stating and find out if possible where he goes. If you have a new employe who lays off, state from what plant he came to you. This will enable us to complete his record. Please post on your bulletin board or in a conspicuous place the names of men as you report them to us. Compliance with this request is obligatory on your part and employes are to be reported even when they are off duty on account of disability. Plans are now being formulated by the production division to secure more steady work and this information is necessary to carry them out. It is also necessary in case our draft law is changed. We are having more slips printed and when you are out let us know.

"Nothing but six days work a week by every man will be satisfactory to the United States government. No man has any right to lay off even part of a day unless he is disabled. The boys at the front do not lay off and the man who fails to support them is supporting Germany and Germany is going to be so badly licked that her supporters will not be able to find a decent place to live in after the war is won. The man who works steadily now deserves the work when work is scarce, which it inevitably will be, but the man who does not do his best now, ought to be drummed out of the United States, and Washington has ordered us to get his record. Your hearty co-operation is appreciated.

"Yours very truly,
"United States Fuel Administration.
"C. E. Lenhart,
"District Representative."

Over a month ago when the car supply problem became a thing of the past measures were taken to increase production. A personal appeal was made to the men in patriotic rallies held at many operations. The men were told in plain language that a substantial increase in the production of the coke regions was absolutely necessary and that it was up to them to produce results. Pledges for a six-day week were taken at many of the rallies. A substantial increase in both the morale of the men and the production followed the campaign of education, but the results admittedly were far from satisfactory.

Anticipate Slump

With hot weather on hand and the midsummer slump imminent, the members of the Connellsville regional fuel committee, C. E. Lenhart, R. M. Fry and J. M. Jamison, were called to Washington two weeks ago and the labor supervision policy drafted. Fuel officials make no secret of the fact that there must still be a substantial increase in production and that if the results are not forthcoming from the present system, other measures, more drastic in their scope, will be placed into effect. Authority to establish a check upon the regularity of labor was contained in a telegram received by R. M. Fry from James B. Neale, director of production of the federal fuel administration.

To Promote Foreign Trade

A combination of 44 manufacturers whose domestic sales aggregate annually $100,000,000, has been organized as the Allied Industries Corp., New York, to develop foreign trade. Alfred I. du Pont, Wilmington, Del., who recently purchased the Grand Central Palace, New York, for use as a foreign trade headquarters, will head the new company. The latter will have its headquarters in the exposition building. Agents are to be sent to Central and South America, Cuba, Porto Rico, Dominican Republic, Phillipines and the Straits Settlements to introduce the goods of the manufacturers represented in the combination, which was made possible by the Webb-Pomerene law signed recently by President Wilson. The plan governing the new corporation contemplates not only the introduction of American goods abroad but the reciprocal encouragement of foreign trade activities here, particularly for Central and Southern American products.

Charles Allis Dead

Charles Allis, second son of the late Edward P. Allis, founder of the E. P. Allis Co., now the Allis-Chalmers Mfg. Co., died in Milwaukee, July 22. Charles Allis, who was 65 years of age, was the first president of the reorganized Allis-Chalmers Co. and at the time of his death was president of the Chicago Belting Co., trustee and member of the executive committee of the Northwestern Mutual Life Insurance Co. and a director in the First National bank, Milwaukee. He was chairman of the Milwaukee County Council of Defense.

Regional Committees

Are Organized Under Otis Plan in New York District

New York, July 22.—William Fellowes Morgan, president of the Merchants association of New York, who was recently appointed regional industrial director of District No. 3 by Charles A. Otis of the resources of conversion section of the war industries board, is organizing a number of committees to determine the manufacturing facilities of the New York district in order that it, as well as all other districts throughout the country, may be in a position to serve the government most effectively. The work of these committees will include a thorough canvass of all plants coming within their respective scopes, an investigation of their capacity and the character of work they are able to do, and what percentage of their capacity already is devoted to government work, and what additional government work they could do.

Among the first committees to be organized will be those covering the production of gray-iron castings, stampings and forgings. W. E. Taylor of Taylor & Co., Brooklyn, has been appointed temporary chairman of the gray-iron castings committee. He has called upon foundrymen to attend an organization meeting to be held July 25 at the headquarters of the Merchants association in the Woolworth building.

Later separate committees will be appointed to cover drop forgings, heavy forgings and light forgings. For the present, however, all three groups will be handled by one committee which is to be organized at a meeting to be held in the Woolworth building, July 25. This meeting is being called by Thomas H. Williams, of J. H. Williams & Co., who was selected by Mr. Morgan as temporary chairman.

On July 26, a meeting on trade organization and procedure will be held in the Woolworth building to organize committees to cover the production of machinery and machine products.

District No. 3 comprises Columbia and Greene counties and all of Greater New York, and Long island, in New York state, and that part of New Jersey north of Mercer county and north of a line bisecting Ocean county.

Some Shapes Available

Philadelphia, July 23.—The Emergency Fleet corporation has expanded its shipbuilding program and plans to call upon car builders on a large scale. A beginning along this line is expected next month. The Aberthaw Construction Co., Boston, has taken a contract for a huge tonnage of fabricated material for three additional shipways for the Bethlehem Shipbuilding Corp. Although most shape mills are sold ahead for several months, one large eastern interest can offer three to eight weeks' delivery depending on the specifications. This interest is selling to jobbers from whom it obtains assurance that the material will be resold only for war preference purposes.

Electrode Plant Operating

The Steel corporation is now making electrodes at its new plant in Pittsburgh, which has been built specially for the manufacture of electric-furnace electrodes. Construction work on this plant was started in January. Its operations will relieve the existing scarcity.

New Rules on Priority

The priorities committee of the war industries board is understood to be completing revised rules and regulations covering priority for steel and other materials. A new circular will probably be issued embracing recent resolutions and statements covering steel.

Wheeler Appointed

Andrew Wheeler, of Morris Wheeler & Co., Philadelphia, has been asked by the war industries board to take charge of iron and steel distribution to jobbers.

The Barrett Co. is planning to build at Cleveland a 2-story office building, 35 x 79 feet, to cost $20,000.

The Non-Ferrous Metals

Copper Lead Spelter Tin

	*Copper	†Spot Straits, tin	‡Lead, New York basis	Spelter St. Louis basis	§Aluminum	Spot antimony
July 17	26.00	.....	8.05	8.45	33.00	13.12½
July 18	26.00	.....	8.05	8.40	33.00	13.12½
July 19	26.00	.....	8.05	8.40	33.00	13.12½
July 22	26.00	.....	8.05	8.40	33.00	13.12½
July 23	26.00	.....	8.05	8.40	33.00	13.12½

*Government fixed maximum price for prime lake, electrolytic and casting copper, in ingots, pigs, slabs, etc., less than carloads, 27.30c.
†No spot Straits tin offering.
‡Price agreed to by leading interest and independents.
§Government fixed price for 98 to 99 per cent ingot aluminum in 50-ton lots; lots 15 to 50 tons, 33.10c; one to 15 tons, 33.20c.

NEW YORK, July 22.—On July 10 an order of the war industries board that no mills are to roll copper or brass tubing without priority order from the government became effective. The mills also are required to classify all of their orders for the board and the instructions on tubing have been extended to all other brass and copper products. This to conserve the capacity of the mills, which have been able to operate only at about 60 per cent owing to lack of labor. No provision has yet been made for small buyers for essential purposes other than war work.

The foreign tin markets continue to move in a perplexing manner, due to conditions on the other side about which nothing is known here, as the private cables formerly received by the New York trade have been practically eliminated by war conditions. This country continues to receive its allotment of Straits tin, which is distributed among tin plate manufacturers and war industries. Other industries are dependent largely upon the supply of Banca and Chinese metal. Owing to the interruption of a railroad in China, exports of this metal from Hongkong are suspended and none is being sold for July and August shipment. Some Banca continues available, however, at about the following levels: July shipment from Batavia, 94c, c. i. f. New York; August shipment, 92.50c; spot on the Pacific coast, 95c; spot at Chicago, $1.05.

The lead market is unchanged at 8.05c, New York, and 7.75c, East St. Louis, with heavy demand from consumers, including inquiry from Japan, China and South America, much of which cannot be satisfied. The prices at other consuming points still are based on East St. Louis, freight being added.

The protest of the metals traffic committee to the railroad administration at Washington has not yet been acted upon, consequently the exorbitant freight rates on lead and spelter which became effective June 25 continue in effect. In many cases these rates show an increase of 100 per cent, instead of 25 per cent as ruled. The spelter market remains quiet, with inquiry light and a tendency toward lower levels. Sales have been made at around 8.40c to 8.45c, St. Louis basis, for prompt and third quarter shipment.

The antimony market is firm. The government recently bought 250 tons for delivery before Aug. 31. Spot metal is quoted 13.12½c to 13.37½c, duty paid, New York, while futures are held at 11.75c to 12c, in bond.

There is no change in the aluminum market, with the government price of 33c for 98 to 99 per cent ingot continuing in effect until Sept. 1.

Quantity Production in a New Plant

Output Greater Than Planned is Being Obtained in Essington Plant Recently Built for Manufacturing Ship-Propulsion Machinery—Description of Works and of Foundry and Machine Shop Methods

BY E. C. KREUTZBERG

SHIP-PROPULSION machinery is required in immense volume to meet the expanding shipbuilding program. The huge, new Westinghouse plant at Essington, Pa., is designed exclusively for the manufacture of such equipment. For that reason, the plant occupies an unusual position in the American iron and steel industry. In THE IRON TRADE REVIEW, May 16, was presented a comparatively brief description of the plant. This article details at greater length the foundry and machine shop operations which have been developed so successfully that the output today is nearly three times greater than was considered possible when the plant was designed.

In January, 1917, when the Westinghouse Electric & Mfg. Co. authorized the construction of its large new plant at Essington, Pa., there was no indication of the tremendous industrial expansion which was to take place in the Philadelphia district after our entry into the war.

Almost from the beginning, difficulty in obtaining materials, and a most acute labor shortage, proved serious handicaps in the construction and operation of the plant. Necessity, however, served as a spur to astonishing results, and progress was made so rapidly that the first heat in the foundry was poured Nov. 20, 1917. The enormous Essington plant is devoted entirely to the production of ship propelling machinery of the Westinghouse type. Its present capacity is about 75,000 horsepower monthly, or sufficient for 15 average vessels. The product of the plant includes condensers, pumps, turbines, reduction gears, propeller shafting and auxiliary apparatus. In fact, it embraces the entire equipment between the boiler plant and the propeller of a vessel. The only units which as yet are not made at Essington, are the lignum-vitae propeller shaft bearings which are produced at the company's East Pittsburgh plant. The particular work which now is engaging the Essington plant is the production of complete propelling equipments for the 7500-ton merchant vessels which are being built for the government by the Merchants Shipbuilding Corp. at Bristol, Pa., and for the 3500-ton government merchant vessels which the Submarine Boat Corp. is building at Port Newark Terminal, N. J.

The spirit which stimulated the construction of the Essington plant animates production to such an extent that much has been done to counterbalance the labor shortage by devising equipment and methods which afford the greatest possible output per man. This feature of the plant is illustrated by the work in the foundry. Originally, for instance, it was believed that the greatest possible output of reduction - gear housing castings that could be expected, was four sets of one size per month. Since then, the methods of molding have been so perfected that three sets of reduction-gear housing castings of one size are produced each week, and other castings are being turned out at a proportionate rate.

Typical molding equipment is shown in the accompanying illustrations, which portray the production of a reduction-gear housing base casting, weighing 14,000 pounds. This piece is the lower half of the case which supports and contains the reduction gears beween the turbine and propeller shaft on a 7500-ton merchant vessel. The mold consists of a drag and cope and two cheeks, and is put up in a 12 x 14-foot cast iron flask. This flask is 62 inches high. The green sand core is rammed on the drag; the lower cheek is rammed on a pattern mounted on a plate, the

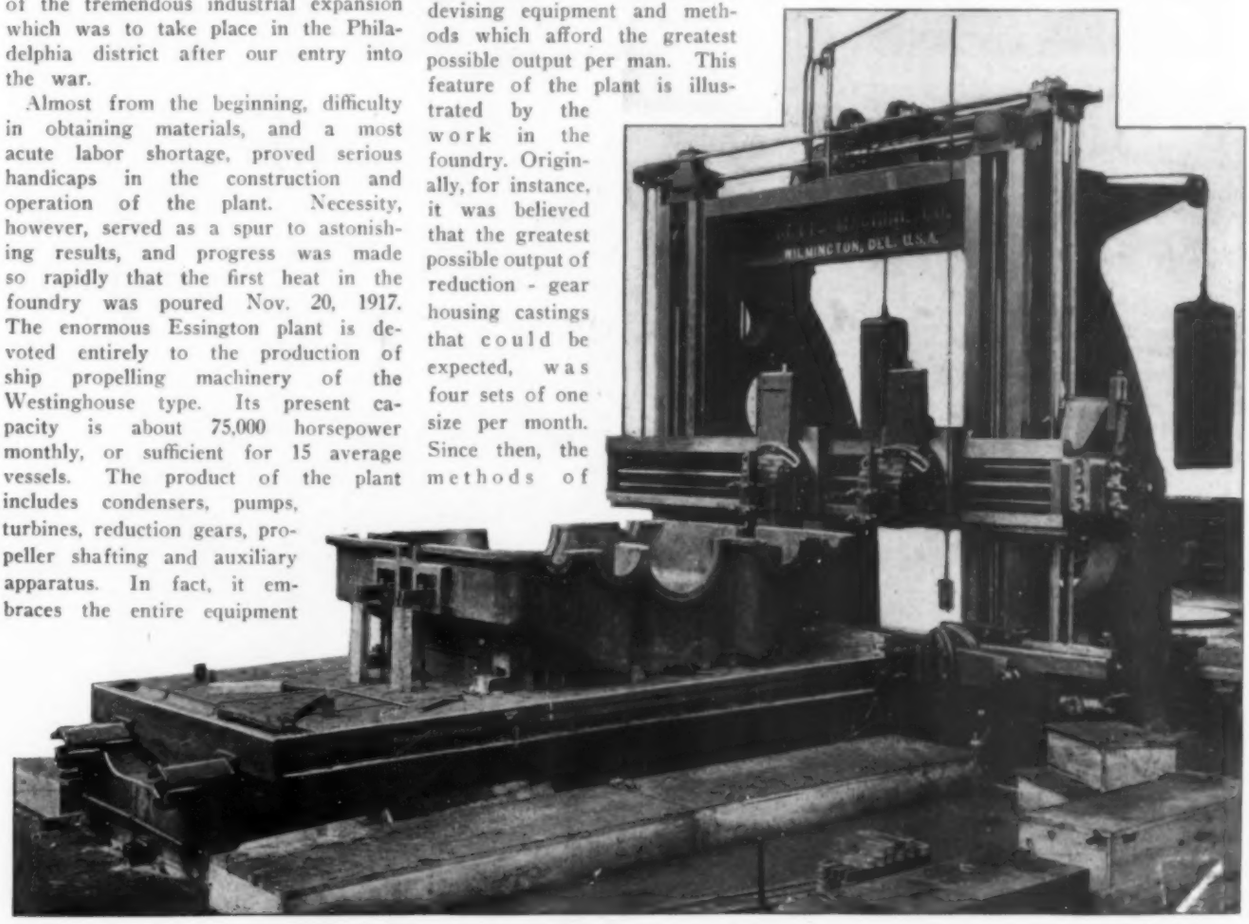


FIG. 1—MACHINING REDUCTION GEAR HOUSING COVER ON 120-INCH PLANER

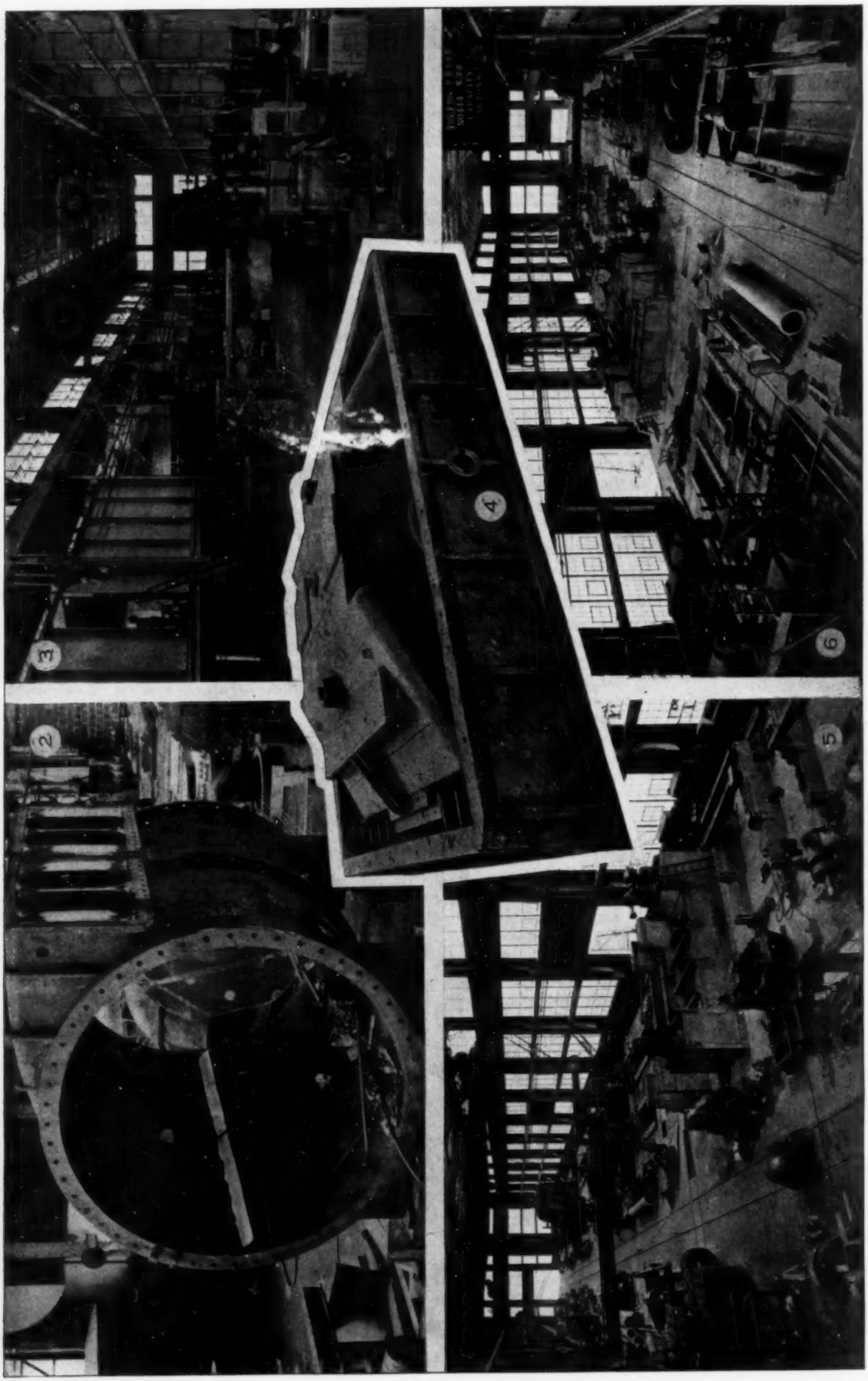


FIG. 2—ASSEMBLING INLET AND OUTLET SECTIONS INTO A COMPLETE CONDENSER SHELL FIG. 3—FORGING SHOP FOR PRODUCING PROPELLER SHAFTING AND OTHER FORGINGS FOR SHIP PROPULSION MACHINERY FIG. 4.—REDUCTION GEAR HOUSING COVER COPE PATTERN WITH FLASK FIG. 5—ERECTING SHOP SHOWING PARTIALLY COMPLETED PITS FOR TESTING TURBINES WITH PRONY BRAKES FIG. 6.—ANOTHER VIEW OF THE ERECTING SHOP SHOWING HYDRAULIC PRESS FOR ASSEMBLING TURBINES AND CONDENSER FOR USE IN TESTING THEM

second cheek also is rammed on a pattern mounted on a plate, and the cope is rammed on the second cheek. Numbers of gaggers are required and a considerable quantity of coke is used to adequately ventilate the mold. The mold has two gates, one on each end, and four risers. It is dried in an oven before closing. The thickness of metal in this casting is 1 inch in the web, while the flanges have a thickness of about 2 inches. The mold for the reduction-gear housing cover casting, which weighs 9000 pounds, consists only of cope and drag; the core is rammed on the drag, while the cope is rammed on a separate pattern mounted on a plate. The mold then is dried before closing. The production of these reduction-gear housing castings now is three sets per week of the 7500-horsepower size. In addition one set of reduction-gear housing castings for 3500 horsepower vessels is produced daily by this method.

Equally interesting is the method of producing condenser-shell castings. In the propelling equipment of each 7500-ton vessel, a 4000 square-foot condenser shell is required. It consists of two castings. Each weighs about 6000 pounds. One serves as the inlet and the other as outlet, and the only difference between them is that one is right and the other left. Originally both castings were produced from one pattern which had changeable lugs but separate patterns now are used. The mold is comprised of drag, two cheeks and a covering cope. It is molded in an iron flask 8 feet square and 68 inches high. The drag and cheeks are rammed on a bottom plate and the cope on a flat plate. The core is rammed separately. The corebox is placed on a plate, and the barrel placed on the inside of the corebox, leaving approximately 3 inches of sand at the bottom and about 8 inches of sand at the top. Then it is put on the jarring machine and rammed, after which the box is pulled off. After it has been dried, the core is placed in the mold on an iron print, or socket, which is bolted to the bottom plate after the pattern has been drawn. The barrel is pushed out of the casting about 25 minutes after it has been poured, by the use of a toggle, while the casting still is in the flask. The mold is dried before closing and is poured through two gates. One set of these castings is being produced daily. Condenser shells for 3500-ton vessels also are produced by the same method, at the rate of one set daily.

Another casting in the production of which considerable ingenuity has been exercised is one that serves as the exhaust connection between the condenser and the turbine on a 7500-ton vessel. This casting weighs about 9500 pounds and the mold consists of a drag and cope, as shown in Fig. 11. They are rammed on separate patterns which are placed on matchboards. The drag is rolled over, while the cope, after ramming, is lifted off and finished overhead while suspended from a crane. The core is made separately and lifted off the box. The mold is dried before closing, and is provided with one gate. The iron flask in which this casting is molded is 10 x 10 feet, and 12 feet high; it is jointed to conform to the shape of the casting. Three of these castings are produced each week.

Turbine castings are molded by equally efficient methods, although the practice is less spectacular. In Fig. 15 is shown the drag and core for the base section of a turbine for a 7500-ton vessel. The mold, which consists of cope and drag, is dried before closing. This casting weighs 8000 pounds. The casting which forms the top half of a turbine casing is molded in a drag, cheek and cope. The drag is rammed on a print. The cheek is rammed on a pattern which is mounted on an iron plate, and the cope is rammed on the cheek. Production of these castings is at the rate of one set per day, while one set for 3500-ton vessels also is produced daily.

A portion of one of the side bays at the Essington plant is devoted to the production of the lighter casting for marine propulsion systems. This section of the shop is equipped with six pneumatic, rollover, molding ma-

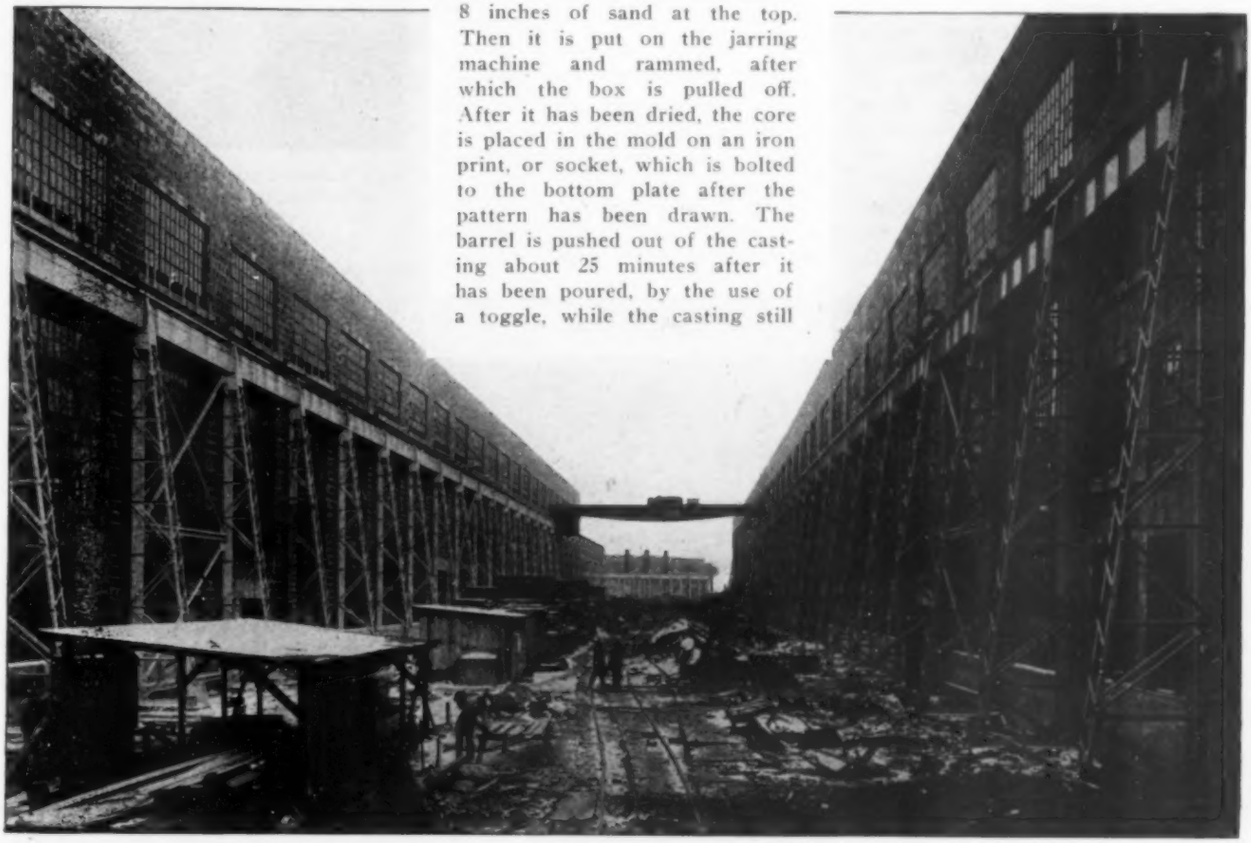


FIG. 7—CRANE RUNWAY BETWEEN MACHINE SHOPS LOOKING TOWARD FOUNDRY

chines and several small jar-ramming machines. In the production of heavy castings, the only machines employed are two 15-ton jolt-rammers. A great deal of the ramming, however, is done by pneumatic hand tools. Manipulation of the heavy molds is accomplished entirely by means of cranes. To facilitate rolling over the large molds, three rollover beams have been built, 12, 14 and 16 feet in length, respectively. Each crane has two trolleys, so that when flasks are wider than 16 feet, the cranes may be used for lifting and rolling. The main foundry bay, in which the heavy work is done, is provided with one 100-ton and two 60-ton, 80-foot span cranes, together with six 5-ton jib travelers. The north bay, which is 50 feet wide, contains one 30-ton and two 20-ton cranes. The south bay, 30 feet wide, contains one 20-ton and one 30-ton crane.

For drying cores and molds, the north bay is provided with ten 24 x 32 x 22-foot, and six 5 x 12 x 12-foot, together with one drawer-type oven. The 10 large ovens, which are double-tracked, accommodate four cars each, while the six smaller ovens have single tracks and accommodate two cars each. The cars are moved in and out of the ovens by chain cables which are operated by means of clutches from a motor-driven line shaft in the floor of the main bay. In addition to the ovens, the foundry is equipped with twelve coke-burning, forced-draft, portable dryers, which are used for drying floor and pit molds.

In order to conserve floor space, molding sand is supplied to the foundry in a novel manner. In the sand-mixing department it is dumped into steel boxes, which are loaded on storage battery trucks and taken through tunnels into the foundry. The sand boxes are then lifted through hatchways in the foundry floor by means of a crane, as shown in Fig. 12. The sand department is located in the basement of the pattern-storage building which is immediately adjacent to the foundry. Here are bins which have capacity for storing 120 carloads of sand where it will not be exposed to the weather. This department is equipped with five sand mills. Adjacent to the foundry is a building which is devoted to reclaiming waste sand from the cleaning room.

Why Air Furnaces Are Used

About 250 tons of gray iron per day is the capacity of the melting equipment at the Essington plant. This includes the melt of three cupolas and three air furnaces. Two of the cupolas are 66 inches in diameter inside the lining and the third is 60 inches. Two of them are equipped with charging machines, as shown in Fig. 13. Two of the air furnaces have capacity of 40 tons each and the third has a capacity of 15 tons. The air furnaces, which burn bituminous coal, were installed for two reasons; large unbroken pieces of scrap may be charged into them, and the entire heat is available at one time. The latter advantage becomes exceedingly valuable when it is necessary to provide iron for an extraordinary large casting. After charging, about eight hours elapses before a heat can be taken from the 40-ton furnaces. All the metal is poured from crane ladles. The heats from the air furnaces are received in ladles which are located in pits. The foundry is equipped with a chemical

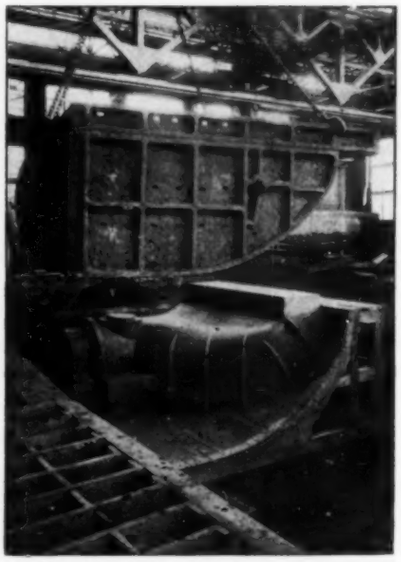


FIG. 10—DRAG PATTERN FOR EXHAUST CONNECTION MOLD READY TO PLACE FLASK

FIG. 8 — PATTERN AND FLASK FOR MAKING FIRST CHEEK FOR REDUCTION GEAR HOUSING BASE CASTING

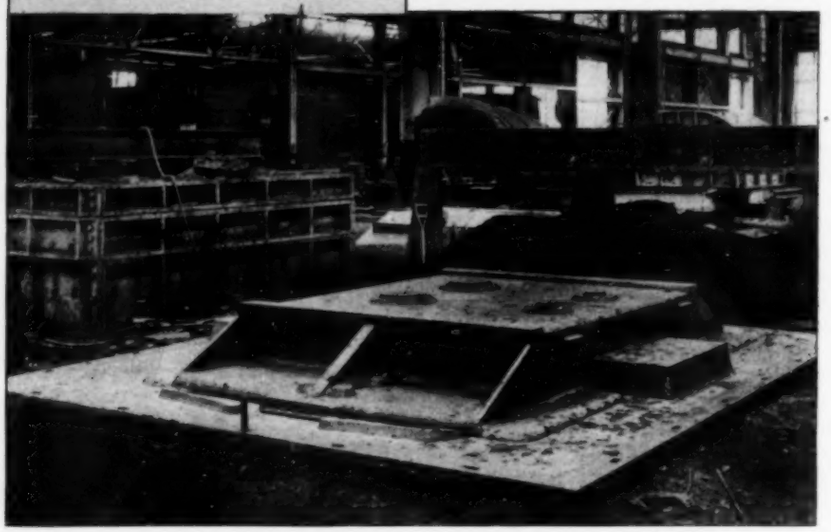


FIG. 9—PATTERN FOR MAKING SECOND CHEEK FOR REDUCTION GEAR HOUSING BASE MOLD

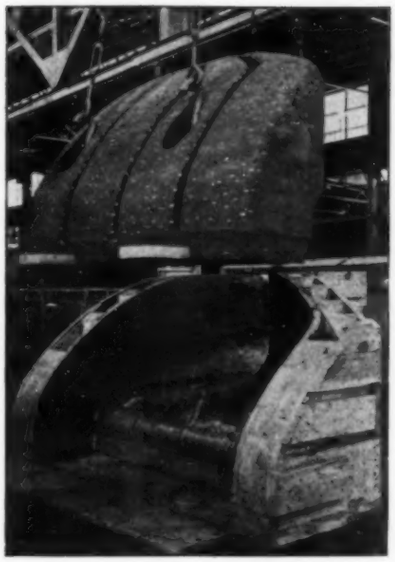


FIG. 11—LIFTING MAIN CORE FOR EXHAUST CONNECTION MOLDS

laboratory where the mixtures are made. Pig iron, scrap iron and coke are loaded into cars in the storage yard, weighed, and brought to the charging platform by elevators. For Emergency use, the charging floor also is provided with an outside platform which is commanded by a crane. This crane has a capacity for 60 tons and span of 100 feet. It is mounted on a 660-foot runway.

In the north bay of the foundry is situated a fair-sized brass, bronze and aluminum melting department. The equipment includes six coke-burning, crucible furnaces, and one oil-burning furnace. The entire non-ferrous capacity is about 4000 pounds per heat.

The foundry is provided with a machine-repair department. This is located on the first floor of the pattern storage building and is employed chiefly for making repairs to iron flasks, molding machines, and cranes. Its equipment includes a shaper, two lathes, a drill press, a bolt and pipe threader, hacksaws, a milling machine, grinder, radial drill, etc. In the pattern-storage building is also located a wood-flask shop which is operated by the foundry department.

The pattern shop and pattern storage building at present is used for a number of purposes, owing to the fact that the patterns as yet have not accumulated sufficiently to take up much room. This structure is 135 x 400 feet, four stories high and is of reinforced concrete construction. In order to reduce fire risk to a minimum, the stairways and elevators are located outside of the building proper. In addition to the pattern shop and pattern storage, this building temporarily contains the main offices of the plant, a cafeteria and dining room, a first-aid hospital, and a large tool room, in addition to the sand storage, foundry machine-repair and wood-flask department.

A novel feature of the pattern shop is its location on the fourth floor of this building. This choice was made in order to afford a maximum amount of natural light. In order that even the largest patterns may be removed from the pattern shop with facility, the building has been provided with a 20 x 20-foot elevator which has a capacity of 10 tons. The equipment in the pattern shop is unusually varied and complete; it comprises a number of tools which are not found in most shops of this kind. Among them are two universal woodworking machines for milling patterns to any desired form; a "ship" bandsaw which may be set accurately at any angle and has capacity for sawing through 24 inches; dowel machines, swinging cut-off saws, universal wood grinders, tool and saw-tooth grinders of all kinds, and the usual run of patternmaking machinery and apparatus. All machines are motor-driven and are equipped with safety devices. The pattern shop is provided with a dust collector system which discharges into an incinerator located outside of the building.

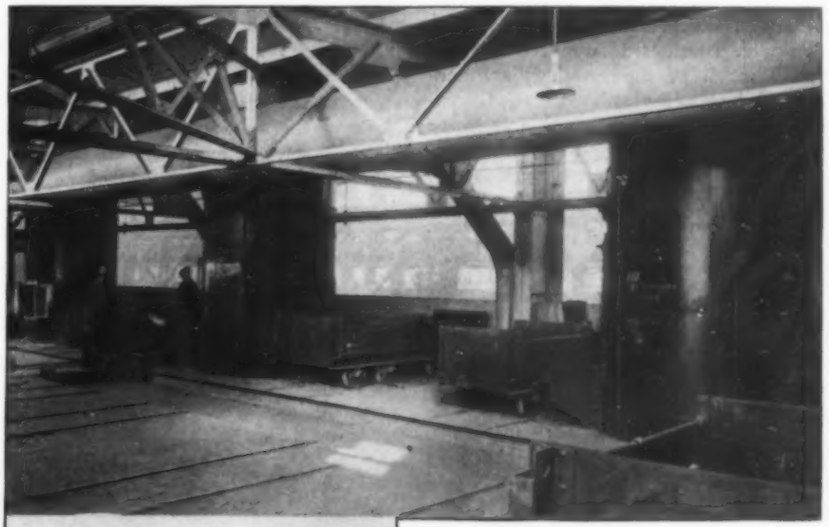


FIG. 13—TWO OF THE CUPOLAS ARE EQUIPPED WITH CHARGING MACHINES

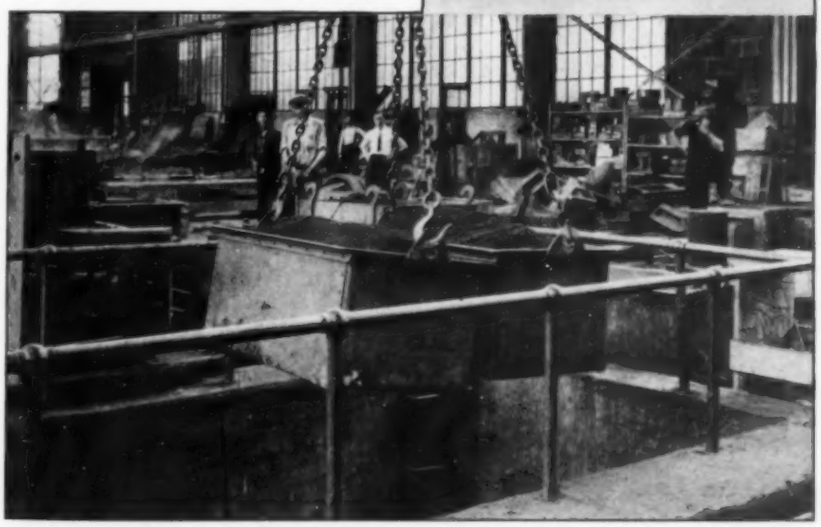


FIG 12—HOW MOLDING SAND IS BROUGHT INTO THE FOUNDRY

The other principal departments of the Essington plant, in addition to the pattern shop, pattern storage and foundry, are the forge and machine shops, erecting floor and power plant. The forge shop is 50 x 350 feet, the two machine shops are each 120 x 750 feet and the erecting shop is 130 x 550 feet. The whole plant consists of steel, brick and hollow-tile buildings, adequately lighted and ventilated, which are laid out to permit the indefinite extension of each department

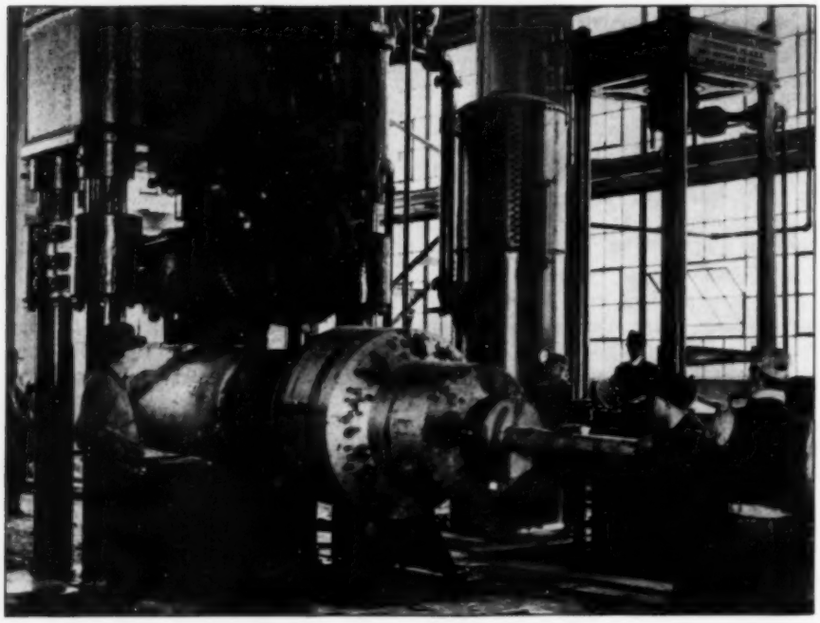


FIG. 14—1000-TON STEAM HYDRAULIC PRESS FOR MAKING PROPELLER SHAFT FORGINGS

manufacturing scheme. The thoroughness with which all details of construction were considered is reflected in the fact that all of the buildings are connected by well-ventilated, reinforced-concrete tunnels, which not only serve as conduits for water, steam, compressed-air and electric-current leads, but are large enough to afford communication from one building to another.

An elaborate system has been developed for keeping track of the work in all its stages, and in all departments of the plant. This sytsem is designed to focus the attention of the production department uniformly upon all parts of each propelling unit, since neglect of any particular part might result in chaos at the shipyards. The keystone of the manufacturing organization, therefore, is an engineering department which divides up each order as it is received and apportions it among the various producing departments. The engineering department first supplies the pattern department with preliminary information which enable it to make such new patterns as are needed. It then turns over to the supply and order department a complete list of drawings, arranged by departments, which constitute a sort of cross index to the materials which will be needed in each department for turning out the order. Having a record of the materials which are on hand in each department, the supply and order department at once is in a position to order what is needed. Two forms then are sent to each department, showing what work it is to do in connection with this particular order; one of them is on a time-department sheet and the other on a production-department sheet, thus providing both for accounting of time and following up of production. It is the duty of the director of production to analyze the entire order from the standpoint of productive capacity, after which he notifies the foremen of the date when the work in each department must be done. By means of clerks or chasers in each department, he constantly posts the foremen as to what parts have priority. In addition, the director of production calls a meeting of the foremen every few days to discuss all factors that have a bearing upon the progress of the work. By this system it generally is possible to tell in advance when a particular department is liable to fall behind in its schedule, and steps may be taken to overcome the difficulties before they lead to serious trouble.

The machine shops parallel each other and communicate directly with the erecting shop, extending from the latter at an angle of 45 degrees. This permits the railroad tracks from the machine shops to enter the erecting shop with a minimum of curvature. This arrangement also affords space for departmental offices, which are located in 4-story buildings occupying the triangles formed by the junction of the machine shops with the erection shop.

The floor of No. 1 machine shop is occupied by large tools for machining large condenser bodies, condenser tube plates, condenser covers, large reduction gears, propeller shafting, etc. From the standpoint of machinery, the floor is divided into departments. One of the most important is a lathe department where all line and tail shafting and reduction-gear shafts and pinions, are machined. Another is a drill-press department where condenser and

FIG. 13—DRAG AND CORE FOR TURBINE CASING BASE MOLD. NOTE COMPLICATED NATURE OF WORK

pump parts are drilled. Other departments contain standard planers, rotary planers, horizontal drill presses, etc. No. 1 machine shop has presses, etc. No. 1 machine shop has a balcony which is equipped with screw machines and other tools for handling the lighter work on pumps, condensers and reduction gears. The balcony also is provided with a machine-repair department. No. 2 machine shop is devoted to the machining of turbines. The floor of this shop is occupied by the planer, vertical boring mill lathe, drill press, horizontal-boring mill and gear-hobbing departments. The gear-hobbing section is equipped with large machines capable of milling teeth on gear wheels up to 160 inches in diameter. These hobbing machines were made by the company at its East Pittsburgh plant, especially for its own purposes. The balcony in No. 2 machine shop is devoted to the machining of lighted work on turbines. All machines throughout these shops are provided with individual motor drive. Each machine shop is provided with 11 cranes ranging in capacity from 3 to 50 tons. In addition to standard-gage railroad tracks which extend through the shops and on which large electric trucks operate, the machine shops are provided with numerous small storage battery floor trucks. The floors in the machine and erecting shops are of asphalt blocks. The space between the machine shops is spanned by a crane and is devoted to the storage of castings which are to be machined. A novel feature is the use of concrete pits, located in the yard, for the storage of borings and turnings. As they accumulate, they are removed from the pits by a magnet and loaded into cars. Brass borings and turnings are kept separate.

The erecting shop which is shown in Figs. 5 and 6 has been provided with pits and foundations for testing turbines and other propelling machinery after erection. These pits are permanently constructed and are provided with pipe connections. For conducting the tests, large quantities of water are required. The water is pumped from the Delaware river and is passed through a settling basin. The erecting shop contains balancing machines for conducting balancing tests upon different parts of turbine spindles. It also contains a jacket department, for making sheet-steel jackets for turbines and a pipe department.

FIG. 17—SOUTH BAY OF NO. 1 MACHINE SHOP LOOKING TOWARD ERECTING SHOP

A completely equipped forge shop has been provided for producing propeller shafting. The principal unit which is shown in Fig. 14 is a 1000-ton steam hydraulic press. The forge shop also contains a 350-ton steam-hydraulic press, a 1500-pound steam hammer, two large and two small heating furnaces, two annealing furnaces, hand forges, case-hardening equipment, bolt heading machines, and tool dressing appliances, as shown in Fig. 3. The heating and annealing furnaces are served by hot-blast gas producers.

All of the buildings composing the plant are steam-heated and are provided with modern facilities for the comfort of the workers. The entire plant is served by standard gage tracks. The intra-plant railroad system is equipped with electric locomotives and cars; this road, when completed, will comprise about 41 miles of track.

The program for future expansion when carried uot will result ultimately in making the Essington plant at least three or four times larger than it is at present.

The Columbia Steel Co., San Francisco, is completing extensive improvements to its plants at Pittsburg, Cal., on the San Joaquin river,

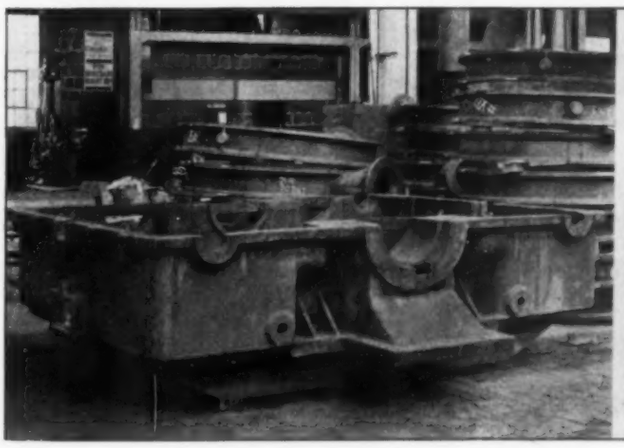


FIG. 16—REDUCTION GEAR HOUSING BASE CASTING READY TO BE MACHINED

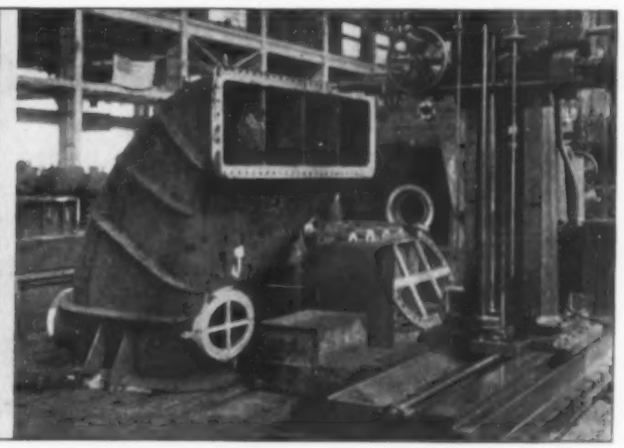


FIG. 18—MACHINING AN EXHAUST CONNECTION CASTING ON A HORIZONTAL BORING MILL

about 40 miles northeast of San Francisco. The company's property at this point covers about 25 acres. Extensive improvements were made to the plant in 1915 and 1916 but owing to the increase in business in 1917 these extensions proved inadequate and in November, 1917, the directors of the company authorized further expenditures for plant extension account. The execution of these plans is now well under way and a new set of buildings has been completed. These new buildings virtually constitute a second foundry at Pittsburg with all of the necessary equipment. The company also has built a number of houses and cottages at Pittsburg for the accommodation of its employes.

Iron Wealth of Lorraine

BY FRANCIS MILTOUN

Paris Correspondent of THE IRON TRADE REVIEW

9 Rue Falguiere, Paris,
July 11, 1918.

A REMARKABLE exposé of the future of French metallurgical industry was published in the annual bulletin of the La Societe Industrielle de l' Est. The bulletin was printed at Nancy at the moment this capital of the ancient Dutchy of Lorraine was under constant shell fire. The article was written by Monsieur Robert Pinot, general secretary of Comite des Forges de France, and an expert metallurgist. During the years just previous to the opening of hostilities the French were noted for their metallurgical success. The pig iron production had doubled itself within 10 years, increasing from 2,800,000 to 5,300,000 tons annually. Arrangements which were nearly completed in 1914 would have increased the output another million tons.

Before the war the French metallurgical industries were divided into districts in the following relative importance as to rank:

Districts	Production of Iron per cent	Production of Steel per cent
Eastern	69	54
Northern	19	24
Central	3	11
Other districts	9	11
	100	100

The ore deposits of eastern France which made this production possible from an economical standpoint have undergone the changes of war to the extent that the geological unity of France has been practically dismembered. To a measure this condition prevailed at the end of the Franco-Prussian war when the region underwent division between France, Belgium, Luxemberg, and the Reichsland, which Germany has succeeded in so ruthlessly tearing from France.

The Lorraine-Luxemberg district in 1913 produced 48,000,000 tons of ore from which 15,000,000 tons of pig iron was made. In the political distribution of this bulk we find that of the iron ore produced, 20,000,000 tons came from French Lorraine, 21,000,000 from German Annexed Lorraine and 7,000,000 from Luxemberg. The entire region is now practically producing for Germany.

It is evident that if the frontier is projected but a slight distance, France will find itself again in possession of the entire region of iron-producing Lorraine, and at the same time will have acquired the furnaces which are built near the mines.

The increase in French production of coal then will be brought from 40,000,000 to 44,000,000 tons, not great in itself but sufficiently large to have notable effect from an economic point of view. It will be mined in the immediate neighborhood, thus avoiding extensive transportation. This will aid in reducing the before-the-war coal deficit of France. Previous to the outbreak of the war, coal was imported at the rate of approximately 50 per cent of the annual consumption. The return of Alsace-Lorraine into the French fold will require more coal to be imported as this province uses more coal than it produces. The annual coal deficit of France will then pass from 20,000,000 to 30,000,000 tons or more.

Monsieur Pinot says: "It would seem necessary to render this coal deficit less apparent and demand at the same time that Alsace and Lorraine is turned back to France, that the contiguous coal basin of the valley of the Saar form a part of the transaction; at least to the extent that will produce an additional 8,000,000 tons, which is just the deficit required from abroad or elsewhere by the industries of Alsace and Lorraine. I say plainly, the return of this region and not annexation because it must not be forgotten that the frontiers of France in 1870 were the same as those of 1815 which were imposed on France by the treaty of Vienna and the European coalition."

Grinding With Cup Wheels

When selecting a wheel or adopting a method of grinding, it is necessary to consider the question of room for the chips removed by grinding. In a recent issue of *Grits and Grinds*, published by the Norton Co., Worcester, Mass., this problem is discussed.

When grinding with a cup or ring wheel, it is necessary that the work be of such form that the chips can escape. The grinding of a continuous flat surface with a cup wheel is not successful because the chips removed are confined between the wheel face and the work surface.

In cases where the surfaces ground are not broad, the ring or cup wheel is successful when care is taken to secure exactly the right grade and grain for each case.

One maker of grinding machines using the disc wheel advocates reducing the area when designing all flat work in order to enable his side wheel machines to give good results.

When using the periphery of the grinding wheel, the line of contact can be so small that chips cannot be confined between the wheel and work, whether the cutting face be narrow or wide. Therefore, with the same width of wheel face in each case we can cut more deeply with the periphery than with the side because the chips are not confined. It is the confinement of chips that prevents us from using the grinding wheel as we do the milling cutter, owing to the slow work traverse and deep cut of wheel.

Deep milling cuts were not possible until milling cutters were made with coarse teeth to allow room for the chips. We should therefore, when deciding upon a method of grinding and when selecting a wheel, remember that the more and larger the chips we remove, the more room we must provide for them.

When the grinding wheel is revolving at a cutting speed of about 6000 surface feet per minute, it will be readily seen why in some cases it can remove metal more quickly than the milling cutter or lathe tool. It is also apparent that the character of the abrasive material used in the wheel is an important factor as well as the grain and grade.

Urges Standard Sizes for Catalog Pages

"It is hardly open to question that there are advantages to be obtained by a further standardization of the page sizes of catalogs as in general than exists at present," said C. F. Beezley Jr., in a paper read at the war convention of the supply and machinery industry, Cleveland, May 16. Mr. Beezley, who is manager of the trade catalog department of R. R. Donnelley & Sons Co., Chicago, referred to the economy in manufacturing catalog of standard sizes and the greater convenience in handling and filing such catalogs. Continuing he said:

"The whole trend in the paper industry is *toward a reduction in the number*

of sheet sizes regarded as standard stock sizes. Since the beginning of the war a great advance has been made in this line by the National Paper Trades association, which includes practically the entire paper making industry in the United States. Before their action of a couple of years ago I understand there were over 150 different sheet sizes that were recognized as regular by some or all of the paper makers. But after the most thorough consideration, they cut down this number to 19 sizes and they have gone even farther than this would indicate, because these 19 sizes include certain sheets, which are used almost exclusively in the east.

"There is no question as to which is the basic size of paper throughout the United States. For years, it has been the 25 x 38-inch sheet among catalog papers. This is the standard of the National Paper Trades association.

"The page size which prints and folds without loss from 25 x 38-inch sheets is 6 x 9. So far then as the paper alone is concerned, it is clear that the 6 x 9-inch page size is the one that comes most nearly to general adoption at present. However, we believe it would be futile to expect that any one page size will cover the requirements of all firms in all lines of business, and we should look to see which of the other recognized sizes of sheets stands next in popularity to the 25 x 38. Here again, there is no question. It is the 32 x 44.

"This is carried in stock generally throughout the country, although not in as many different weights as the basic 25 x 38. It is carried more generally and in a greater variety of weights and kinds than any other paper aside from the 25 x 38.

"It happens that the size of catalog page which cuts without waste from the 32 x 44-inch sheets is 7¾ x 10⅝ inches. To sum up the matter, I believe that the page size of 6 x 9 is clearly indicated as the size that will best answer the requirements of most firms. I also believe that it would be unwise to expect that every hardware jobber, every manufacturer of bathtubs, every manufacturer of automobile trucks would adopt the 6 x 9-inch size. There will continue to be a minority who will desire and require a larger page size. We would recommend that such firms use 7¾ x 10⅝-inch size so far as feasible."

Silicon Carbide Useful as a Resistor

BY WIRT S. SCOTT

THE purpose of this paper is to place before the Association of Iron and Steel Engineers certain facts relating to an electric forging furnace which the Westinghouse Electric & Manufacturing Co. has been developing.

Our first investigation was with a granular graphite resistor which led to experiments with other resistor materials, various combinations of granular graphite, coke and charcoal and these materials in combinations with carbon blocks. Moderately successful results were obtained only when the resistor material was of the purest carbon or graphite and it is difficult to obtain a supply of these materials sufficient for operating furnaces.

If there is any slag or ash left from the combustion of the resistor it remains in the bed, so that the relative proportion of such material is gradually increasing with time, causing an increase in the resistance of the furnace. If the slag or ash is fusible at the temperature of the resistor bed, a clinker will be formed which rapidly extends through the granular mass, resulting in a rapid increase in resistance and consequent failure to heat.

When a furnace employing granular graphite was maintained for a considerable length of time at sufficiently high temperature to turn out steel at 1800 degrees Fahr., we found the temperature in the bottom of the resistor bed exceeded the safe limits of refractory materials. With a temperature of 1800 degrees Fahr. on the surface of the bed the temperature at the bottom was approximately 3600 degrees Fahr. This great difference was due to the characteristics of carbon in that it has a large negative temperature resistance coefficient; as the temperature increases resistance decreases. It is evident that carbon in the bottom or at the center of the bed will operate at higher temperatures than that at the surface, which has an opportunity to radiate its heat to the surrounding air and chamber. An increase in temperature at any given part lowers the resistance through that part, which in turn causes more current to flow, the temperature gradually increasing with the current. Conditions tend to become stable at any very high temperature, but greatly in excess of temperatures which may be safely withstood by any refractory material now available.

Experiments with Silicon Carbide

During the latter part of 1916 we began experiments in using silicon carbide as a resistance material. A study of the chemical and physical properties of silicon carbide led us to believe that it possessed desirable qualities essential to a suitable resistor for an electric forging furnace, but also indicated that there were many difficulties to be overcome.

The temperature of formation of this resistor material is 3542 degrees Fahr. The temperature of decomposition is 4018 degrees Fahr. and its hardness is between the ruby and the diamond. There is no oxidation of this material in pure oxygen at 1800 degrees Fahr. While from 2732 to 3272 degrees Fahr. oxidation is much retarded by the fused silica coating. Neutral or reducing gases, such as carbon monoxide, nitrogen and hydrogen have little or no action. The specific gravity is 3.12 to 3.20. Based on a specific gravity of 3.20, the weight of the solid block without pores is 199.7 pounds per cubic foot.

The resistivity of the blocks varies with differences in porosity and chemical composition but at temperatures above 1800 degrees Fahr. the resistivities have approximately the same value.

The temperature at decomposition is above 4000 degrees Fahr., which is approximately 1500 higher than the highest temperature required at the surface of the resistor. Due to the construction of the furnace employed, the atmosphere in the furnace chamber is nonoxidizing and under these conditions the resistor is nonconsuming. The material may be molded in block form, allowing the heat element to be placed in any desirable position around the heating chamber. The roof of the heating chamber as well as the hearth may be made of the resistor blocks because of their high tensile strength.

We built a furnace 46 inches wide, 38 inches deep and 48 inches high, inclusive of a 12-inch foundation. The radiating surface was approximately 81 square feet and the resistor consisted of two blocks of silicon carbide, 2½ x 4½ inches cross section, 9 inches in length, connected in parallel, one over the heating chamber and one underneath, 2½ inches apart, forming a heating chamber 7 inches wide, 11 inches deep and 2½ inches high. The resistors were surrounded by and imbedded in a refractory lining made principally of crucible clay and a graphite mixture. Surrounding this lining silica bricks were used, backed up by ordinary fire bricks.

This furnace was placed in continuous operation under actual shop conditions in 1917.

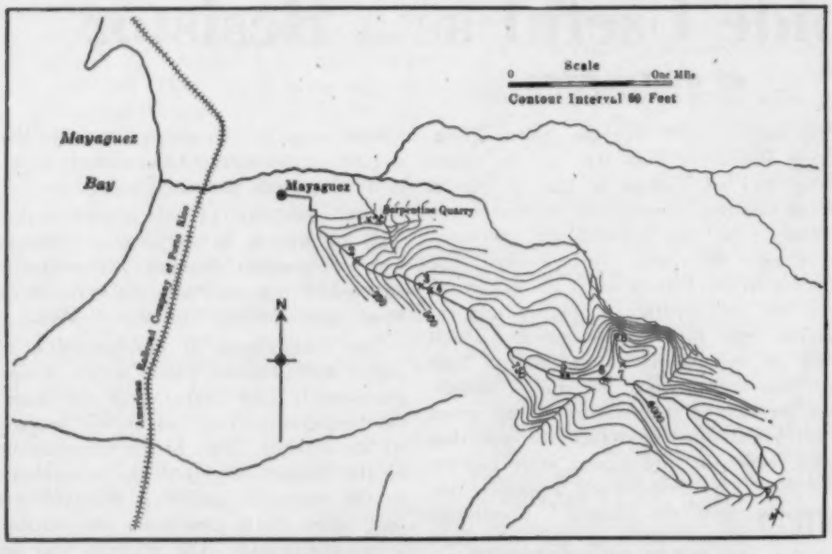
From a paper presented at a meeting of the Association of Iron and Steel Electrical Engineers, Pittsburgh, April 20. The author, Wirt S. Scott, is associated with the Westinghouse Electric & Manufacturing Co.

Limonite Deposits in Porto Rico

The Mesa Southeast of Mayaguez Contains Large Quantities of Limonite Resting on Beds of Serpentine—Ore Deposits Are Similar in Composition and Structure to Those of Cuba

BY CHARLES R. FETTKE AND BELA HUBBARD

DURING the summer of 1916, while on a visit to the United States agricultural experiment station at Mayaguez, Porto Rico, the writers were informed by D. W. May, the director, that an occurrence of manganese ore had been reported from the mesa southeast of Mayaguez. A visit to the locality showed that the mesa is covered by a mantle of bright red soil resting upon serpentine. Scattered over its surface are concretionary masses of limonite, washed out of the soil which were apparently mistaken for manganese ore. On account of the similarity of this occurrence to the extensive iron deposits of northeastern Cuba, a brief description based upon a two days' reconnaissance survey of the area is of scientific interest.



SKETCH MAP OF MESA LOCATED SOUTHEAST OF MAYAGUEZ, PORTO RICO

Mayaguez is on the west coast of Porto Rico, at Mayaguez bay, which is the third in importance of the harbors of the island. The town itself is about three-fourths of a mile inland on the low-lying plain at the mouth of the Mayaguez river. With its population of about 16,500, it ranks third in size among the cities of the island.

The mesa is an erosion remnant of a former peneplain developed during the period just preceding the early Eocene. In the vicinity of Mayaguez this surface now has a maximum elevation of from 1100 to 1200 feet above sea level. The uplift of the early Tertiary peneplain probably occurred toward the close of that period. Since that time numerous streams have incised their valleys into it, so that at present little of the original surface remains. The accompanying map is a sketch from a pacing and compass traverse, with elevations determined by aneroid barometer. Outcrops of the underlying serpentine rock are abundant along the steep northern and southern sides of the mesa. The rock is composed mainly of serpentine, having a light yellowish-green tinge and, under crossed nicols, shows the characteristic mesh structure of serpentine derived from olivine. No remnants of unaltered olivine were detected. Bastite occurs in numerous grains and crystals. Occasionally fibrous serpentine has developed along some of the cracks. Scattered throughout the section are minute grains of magnetite and chromite. Secondary iron oxides, principally limonite, indicated by their rich brown color, are also present along minute cracks between and in the former olivine grains, having separated out during the serpentinization process.

On recasting the original analysis of the serpentine rock the mineralogic composition shown in the accompanying table is indicated.

In making this calculaton, the magnesa has all been considered to be present as the mineral serpentine. Some of it is actually present in bastite, but as bastite is believed to have the same composition as serpentine it is included under the latter mineral. No allowance has been made for spinel, as none was detected in the thin sections. After deducting enough ferrous iron to satisfy the chromic oxide in chromite, the remainder has been accredited to iron serpentine. No allowance has been made for magnetite, although small percentages are present in the rock. The nickel oxide has all been calculated as though it were present as a nickel serpentine. The alumina has been distributed among feldspar, kaolinite, and gibbsite. Whether any gibbsite is actually present could not be determined from the thin sections, but there is not enough silica in the rock to combine with all of the alumina as a silicate. Ferric oxide has been calculated as limonite, although some of it is present as magnetite. Hematite and other hydrated iron oxides besides limonite may also be present.

The limonite occurs as a mantle of brown to reddish-brown soil overlying the top of the mesa and extending part way down its sides. Over most of the steep northern and southern flanks, however, it is absent, the underlying serpentine rock coming to the surface here. The material does not furnish a very fertile soil, so that vegetation on the mesa is scanty as compared with the luxuriant growth of tropical plants covering the adjoining hills. Over most of the mesa, the total thickness of the limonite is not exposed, and as this cannot be determined without drilling, a few measurements only were obtained during the hasty reconnaissance made by the writers.

At locality 2 on the map 6 feet of limonite is exposed in a cut along the road and no serpentine shows. At locality 3, there are 10½ feet of limonite resting on the serpentine, while at 4 there are only 7 feet. At locality 6 there are 21 feet. Although the serpentine does not show at the bottom of the exposure at 6 the appearance of the material indicates that it is not far beneath. At 8 a total thickness of 32 feet of iron ore was observed resting upon the serpentine.

The reddish-brown soil continues along the road following the crest of the mesa

Abstract of a paper to be presented at the fall meeting of the American Institute of Mining Engineers, Colorado.

nearly to the point where the small stream crosses it near the southeast corner of the map, but no further measurements of its thickness were obtained in this locality.

As a rule the contact between limonite and the underlying serpentine is irregular. This can best be seen in cuts along the mesa road between localities 3 and 4. The light-colored rock is partly weathered serpentine while the darker-colored material is the iron ore.

Most of the limonite deposit consists of a loose, porous, earthy mass, varying in color from a light yellowish to a dark reddish-brown. Usually the red portions occur nearest the surface while the brown rest upon the serpentine. The relative percentage of iron in the ore cannot, however, be determined from the color, as frequently the brown varieties contain a higher percentage of ferric oxide than the darker red. The shade of color is undoubtedly due to the degree of dehydration of the ferric oxide; toward the surface the limonite tends to lose its combined water and gradually passes into less hydrated forms of ferric oxide, and finally to hematite.

A chemical analysis of a sample taken from locality 8 on the map is as follows:

	Per cent
SiO_2	2.44
Al_2O_3	20.21
Fe_2O_3	57.69
FeO	0.85
MgO	0.61
CaO	trace
H_2O at 110 degrees Cent.	1.09
H_2O + ignition	14.96
TiO_2	0.26
NiO	1.00
Cr_2O_3	1.57
	100.68

Only a small percentage of the alumina in the ore is present as hydrated aluminum silicate, as shown by the low silica content; the remainder has been calculated as bauxite; possibly other forms of hydrated aluminum oxide are also present. After allowing for the chromite, the remainder of the ferrous oxide has been calculated as magnetite That the chromium is present as chromite was determined by treating the material with hydrochloric acid and then separating the black metallic particles in the residue. These gave the typical emerald-green bead of chromium with salt of phosphorus. After allotting a small percentage of ferric oxide to magnetite the remainder was distributed between limonite and goethite in such proportions as to account for the remainder of the combined water. It is probable that at least a portion of the ferric oxide and water are present in other combinations but it is not supposed that hematite occurs to any extent in the sample on account of the absence of red color.

In addition to the loose earthy material, numerous boulders and masses of hard ore occur scattered over the limonite area. These boulders retain the porous structure of the soft ore, but contain little veinlets running in all directions filled with the botryoidal form of limonite with varnish-like luster. These boulders ranging in diameter from a few inches up to several feet have apparently been washed out of the upper layers of loose material.

A thin section from such a boulder under the microscope showed that the hydrated iron oxide is present in two forms, cryptocrystalline and amorphous. The former variety retains the structure of the serpentine, while the amorphous has been deposited afterward in little veinlets running in every direction throughout the cryptocrystalline. Small grains of magnetite and chromite appear here and there, as in the serpentine rock.

True limonite has the formula $2Fe_2O_3 \cdot 3H_2O$. To neutralize 74.92 per cent Fe_2O_3 would require 12.67 per cent of H_2O if all of the ferric oxide were present in this form. Since the analysis shows 15.03 per cent H_2O it is possible that both the amorphous and the cryptocrystalline variety have this composition. In general, where the term limonite is used in this paper, unless specifically stated otherwise, it includes all of the hydrated forms of ferric oxide that are usually classed under limonite in the iron-ore trade.

Similar to Cuban Deposits

The close association of the limonite and the serpentine points strongly to residual origin of the limonite as in the Cuban deposits. Where other rocks lower in iron underlie the surface, the soils are relatively poorer in iron oxides. That the original structure and texture of the serpentine can still be detected in some of the hard ore furnishes almost indisputable evidence that the limonite has been derived from it in this manner. The irregular contact of the iron ore with the underlying serpentine is also characteristic of residual deposits derived from underlying rocks by the process of weathering. Likewise, the extremely porous structure of the limonite, where slumping has not occurred, shows that it has been formed by a leaching process in which the more soluble constituents have been dissolved by circulating waters, leaving the less soluble constituents behind. The relatively high percentage of chromite in the ore also indicates the same origin. Chromite is a relatively insoluble mineral, and therefore remains behind in the residual soils.

Approximately 80 per cent of serpentine rock consists of the minerals serpentine and bastite. Both minerals succumb fairly readily to the decomposing action of circulating waters carrying oxygen, carbon dioxide, and organic acids, particularly in a moist tropical climate. The magnesia is probably first converted into a carbonate, in which form it is sufficiently soluble to be leached out by downward-moving waters. The silica, being liberated in a finely divided and colloidal form, likewise appears to be susceptible to solution in the circulating groundwaters. The iron, on the other hand, becoming oxidized to the ferric condition, is precipitated as a hydrated ferric oxide.

Mineralogic Composition of Mayaguez Serpentine Rock

	Per cent	
Magnesium serpentine, $3MgO.2SiO_2.2H_2O$	76.69	*
Iron serpentine, $3FeO.2SiO_2.2H_2O$	2.01	*
Nickel serpentine, $3NiO.2SiO_2.2H_2O$	1.30	*
Kaolinite, $Al_2O_3.2SiO_2.2H_2O$	4.38	
Gibbsite, $Al_2O_3.3H_2O$	4.21	
Limonite, $2Fe_2O_3.3H_2O$	7.30	
Rutile, TiO_2	0.08	
Chromite, $FeO.Cr_2O_3$	0.45	
Albite, $Na_2O.Al_2O_3.6SiO_2$	2.10	†
Anorthite, $CaO.Al_2O_3.2SiO_2$	0.28	†
Orthoclase, $K_2O.Al_2O_3.6SiO_2$	0.56	
Absorbed water, H_2O	0.83	
	100.19	

*80 per cent serpentine.
†2.38 per cent plagioclase.

Another large electric steel casting plant is to be added to the rapidly growing list at Milwaukee, the Hercules Steel Casting Co., recently incorporated by Milwaukee interests, announce that plans have been completed for a foundry which will be ready to begin operations about Sept. 15. The Hercules company has begun excavating operations for a brick, steel and concrete shop, 90 x 300 feet. The company has already contracted for a 5-ton electric furnace together with other equipment and cranes. Joseph Evans, Milwaukee, is president of the company. Dr. John J. McGovern is vice president and E. B. Gennrich secretary-treasurer.

British Solve War Labor Problem

Relationship Between Capital and Labor, and Operation of Wage Boards and Arbitration Court Under Munitions Act Studied in Light of America's Difficulties —Trouble is Slight But Wage Increase is Huge

BY JOSEPH HORTON
British Correspondent of THE IRON TRADE REVIEW

Labor's Best Friends the Employers

AN investigation of the British labor problem by a government commission composed of broad-gaged, unbiased men, developed as one of its most important features, that the strongest supporters of improved relations between employers and employes and of generous treatment toward the latter are to be found among the employers. This fact was held to be one of the primary reasons for a minimum amount of discord among the industrial rank and file of Great Britain. Another factor of importance was the enormous increase in wages granted by all employers. Granted that employers everywhere are interested in the utmost production and are disposed to treat their employes fair, how far should their generosity extend in justice to themselves and their employes? What is the dividing line between fair wages for honest labor and labor profiteering?

Great Britain's experience with this problem during four years of the war has resulted in conclusions of immense importance to employers in the United States, where the same problem is growing more serious every day. The results were considered so important that even the German government had the reports of the British investigation committee printed and distributed among German manufacturers.

The accompanying article is the first of two prepared especially for The Iron Trade Review by its British correspondent who has carefully studied all details of the British system. In this article he describes the British government's successes in handling the problem, giving the suggestion that a combination of the British wages board system and the simple arbitration court so widely operating under the munitions of war act of 1915 should be applicable to America.

BRITISH business men and labor leaders have heard with some surprise the statement attributed to an American critic that America has had "far more strikes and instances of labor profiteering during the year she has been at war than the British have had since August, 1914."

We on this side are not so confident as to our right to this compliment, and we do not forget that a year ago the industrial unrest commission was taking evidence in all parts of the country, while the subsequent findings of the commission were far from complimentary. The handling of the labor problem has been accompanied by showers of plentiful criticism, and occasionally there have been storms and stern rebukes. But the British freedom of self-criticism has to be remembered in judging of these matters.

While there is no reason for compliment, criticism is equally uncalled for and would be a gross injustice considering the immensity of the task and the complete absence in some industries of intelligent or authoritative regulation before the war the government is entitled to credit for having made a fair job of its treatment of labor questions. The task has been particularly difficult in view of the enormous disturbance of labor by increases in the cost of living, necessitating the throwing into the melting pot all recognized wage standards. Naturally, the job of reconstructing wage lists has been fraught with great concern, while a concurrent obstacle has arisen from the necessity of replacing workmen called to the colors with thousands of inexperienced persons.

The authorities have benefited from experience and a good deal less is heard of labor unrest than during earlier periods of the war. Cynical critics may suggest that if there is less labor unrest this is because labor, like a spoiled child, is quiet because it has obtained all it wants.

The latest annual statistics are for 1917. During that year disputes causing a stoppage of work numbered 688, involving 820,727 workers directly and indirectly at the establishments concerned. This compares with 581 disputes involving 284,296 workers during the previous year. The duration of the disputes in 1917 amounted to 5,250,000 working days, as compared with slightly less than 3,000,000 working days in 1916. These are rather large figures, but the strike period last year represents only about half the average for the nine preceding years. All things considered this is not a bad record.

Last year 116 disputes related to coal mining, 12 to other mining and quarrying industries, 94 to engineering, 49 to shipbuilding and 38 to other industries. Two disputes in coal mining and engineering accounted for more than half the total number of workers involved, affecting about 200,000 men in the engineering trades in various parts of the country. In the coal trade one dispute affecting 2600 examiners at collieries in South Wales and Monmouthshire made about 125,000 other colliery workers idle. When these are considered it will be seen that while 1917 compares unfavorably with 1916 the extent of labor disturbance was not particularly formidable.

It should be noted that the pace of increase in wages becomes hotter and tends to show that the workers are taking greater advantage of the immense extent to which the country is dependent on them to bring about a satisfactory termination of the war. Advances in wages last year represent an amazing increase over the advance in 1916. The number of workers whose rates of wages were changed totaled 4,690,000 as compared with 3,593,000 in 1916. The net increase in the weekly wages of those affected was £2,183,000 as compared with £637,000 in 1916.

Some of the increases are startling in

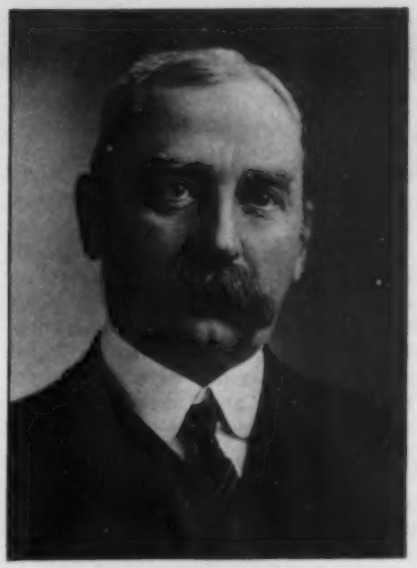
their amounts. For example, under the head of coal mining the increase in wages during 1917 was £473,200 as compared with £227,000 in 1916. In iron and other mining the figures were: For 1917, £15,100, for 1916, £8000; pig iron manufacture, 1917, £14,300, 1916, £8200; iron and steel manufacture, 1917, £64,200, 1916, £33,800. The increase in 1917 was shared in by substantially the same number of workers as in 1916. The most striking increase of all is under the head of engineering and shipbuilding. In 1916, 580,000 workers received increases amounting to £89,500, but in 1917, 1,230,000 workers received wage advances amounting to £841,600. These are the principal increases of special interest to the iron and kindred industries. With regard to the wages of iron and steel workers it should be explained that these increases largely came through the operation of sliding scales, but some of them came also through the grant of war bonuses. The wages of blast furnace men in Cleveland were raised from 69.75 per cent above the standard at the beginning of the year to 79.50 per cent above at the end of the year and war bonuses of 3d to 7d per shift were increased to 9¼d per shift. This is a sample of what was done right through the iron districts.

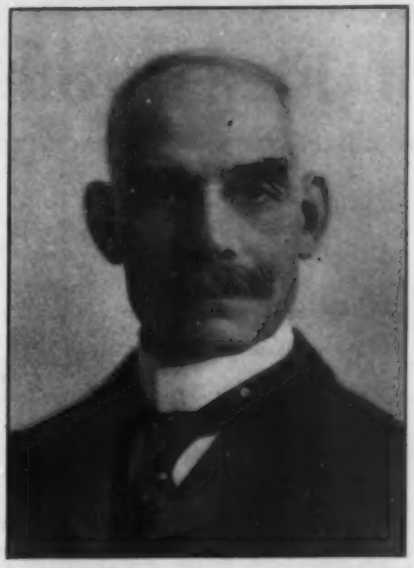
In the heavier iron and steel trades steel melters and pitmen in the principal districts received the net advance of 6.25 per cent on their basis rates under the operation of the sliding scale. Iron puddlers and millmen received net increases respectively of one shilling per ton and 10 per cent on basis rates in the north of England, 9d per ton and 7.50 per cent in the midlands and one shilling per ton and 10 per cent in Scotland. The wages of steel sheet millmen in the midlands and South Wales were increased by 7.50 per cent on basis rates, making a total of 90 per cent above standard and steel millmen in Scotland were granted an increase as war wages of 5 per cent, making the percentage over standard 65 per cent, with an extra war increase of 3 shillings per week to men earning up to £3 per week.

In addition to this it was arranged in January of 1918, that a bonus of 12.50 per cent on earnings should be granted to time workers employed in direct connection with the manufacture of iron and steel whose total war wage did not exceed 20 shillings per week.

Increases Retroactive.

In the shipbuilding trades several general increases have been granted by the committee on production, and a bonus of 12.50 per cent on earnings has been granted to men employed at time rates on munitions work in engineering shops, boiler shops and foundries and in shipbuilding and ship repairing establishments, applying retroactively to the first full pay after October 12, 1917.





G. MacPHERSON
R. LOWNDES
JAMES COX

Mr. MacPherson is chairman of the Midland iron and steel wages board, Mr. Lowndes is the employers' secretary and Mr. Cox the operatives' secretary.

Iron Trade a Criterion

It should be fully understood that in regard to all wage settlements the iron trades are in a special position and, indeed, they have often been referred to by government officials and others as setting models for imitation by other trades. Americans by this time will be quite familiar with the operation of the iron and steel wages board of the north of England, as well as the midland iron and steel wages board, both of which have made the iron and steel trades absolutely the most pacific of all skilled industries.

Disputes of magnitude are really unknown in the British iron and steel trade. There has not been any worth mentioning for at least 40 years. Under the constitution of both boards there is a standing committee, equally representing employers and employes, which has power to settle a dispute. It is rather seldom, however, that this body has to be called together since a consultation between the secretaries on either side often averts trouble. When the standing committee fails the dispute comes before the board, but this seldom happens and the last court of appeal under the constitution is the calling in the independent arbitrator, who occupies the otherwise ornamental position of president. Many years ago this office was held by Joseph Chamberlain and it has since been filled by one or other of the lord mayors of Birmingham. But for at least 20 years, the good offices of the president as arbitrator have not been called for.

With regard to the settlement of wage questions generally the anchor of the government has been the munitions of war act of 1915, which is constantly being applied and has been the means of settling pacifically thousands of disputes. Whatever success has been realized has been due first of all to the patriotism of employers and employes, but as far as legal enactment is concerned undoubtedly the maintenance of peace has been due to the operation of this act.

The measure provides that a difference either existing or apprehended which the parties concerned cannot settle for themselves may be reported to the board of trade which has power to obtain a settlement under what is called Schedule 1. The board may refer the wage dispute to one of the three following arbitration tribunals: The committee appointed by the first lord of the treasury, known as the committee on production, to a single arbitrator agreed upon by the parties, or in default of agreement appointed by

the board of trade, or to a court of arbitration consisting of an equal number of persons representing employers and employes with a chairman appointed by the board of trade. It is provided that the parties may choose one of these three tribunals, but failing any such agreement the board of trade may select either.

One provision enables the board of trade, where decision is unduly delayed, to step in and appoint its own arbitrator. The act prohibits the declaration of a strike or lockout, making such stoppage an offense except where the matter may have been reported to the board of trade and the board after the lapse of 21 days has failed to refer the matter for settlement. The act regulates differences as to rates of wages, hours of work, terms or conditions affecting employment in the manufacture or repair of arms, ammunition, ships, vehicles, aircraft or any other articles required for use in war.

A great many more matters are dealt with under the act and an important provision is that any departure during the war from the practice ruling at the workshops, shipyards and other industries prior to the war shall only be for the period of the war. Safeguards from the standpoint of the workers are made in other ways, the object being to insure the restoration to workmen at the end of the war of whatever rights or privileges they may be called upon to sacrifice. The great essential is that under no circumstances shall there be stoppage of work.

In the majority of cases, the act results in the appointment of a single arbitrator who meets with representatives of the employers and the trade union leaders. Sometimes the manufacturers have with them the secretary of an employers' federation and a labor federation may also be represented. As a rule, the proceedings occupy about a couple of hours, a shorthand report is made and supplied to the arbitrator who makes his award. Official records show hundreds of such inquiries are held every month. Generally a barrister of experience is appointed by the board of trade as arbitrator. The writer has attended a number of such inquiries and has not observed the slightest distrust with the arbitrator whose decision is invariably accepted without demur.

The system works well and has had more than anything to do with the maintenance of peace at home and the steady outflow of munitions of war material of all kind, almost without interruption.

U. S. Chief of Fire Protection Urged

BY J. D. PRYOR AND F. V. SACKETT

IN essentials the fire-protection problem in war time does not differ from that in peace time. War conditions increase fire dangers but the means most efficacious for combating those dangers in normal times are still most efficacious. A great deal has appeared in the daily press on incendiary fires set by German agents, and the amount of our losses last year—totaling $250,000,000, an increase of more than 25 per cent over normal—encouraged the belief that enemy aliens were responsible for the greater part of them.

Enemy agents did cause heavy fire losses, perhaps $30,000,000, but according to the National Board of Fire Underwriters certainly not more than this. If only about 10 per cent of our losses have been due to enemy aliens, our attention should be focused on stopping the 90 per cent.

The stationing of sentries outside of munition-manufacturing plants appeals to the imagination of the public, but, as Thomas W. Gregory, attorney general of the United States, says: "Statistics show that the chief dangers menacing private manufacturing plants are those developed within their boundaries. The real protection needed is protection within the plants, and the prime responsibility for protection rests upon owners and managers."

What is really at the bottom of public interest in fire losses is that our country for the first time is awake to their real meaning. Faced with the task of supplying sinews of war, we have come to see that food, guns, machinery and clothing are the valuable consideration, not the amount of money they are worth.

Don't Help the Kaiser!

SO GREAT has been the haste to rush shipyards to completion that fire protection in a great majority of cases has been overlooked. This is dangerous because we must look at the ship problem not in terms of money, but in terms of men we must put on the western front. It is estimated that it takes five tons of shipping per year per man on the fighting front. The destruction of a shipyard capable of turning out 200,000 tons of shipping is just the same as if the kaiser's troops had captured practically a whole army corps.

In no other country has fire-protection engineering and fire-resistive construction developed to such an extent as here. But despite this our losses even in peace times are staggering. While values are mounting and production is being speeded the answer to our problem cannot be found by changing these elements. There remains for us only one way in which to effect the cure and that is to be more careful that fires do not start and more careful that we have at hand adequate means for putting them out.

The three most essential classes of property are those least protected. They are in order of their importance: Shipbuilding yards; flour mills and grain elevators; and piers, wharves, docks and storage warehouses. There are two other great classes of vital industry, metal-working establishments, including foundries and machine shops, and textile mills. The average munition works, being a metal-working risk, has not the severe hazard of other classes of risk, and yet the fire loss among the metal workers is astounding. That industry, while its largest units fall into the protected class for insurance rating, has many small units where values have not been sufficient to induce owners to protect them. Our textile mills producing clothes for our soldiers are the most completely protected class of property in this country and probably in the world.

Next in importance to the active prosecution of our shipbuilding program is the production and conservation of foodstuffs. The National Board of Fire Underwriters declares we burn wheat in grain elevators and flour mills at the rate of about $10,000,000 annually, the total destruction of foodstuffs running to about $25,000,000 a year. That this rate of burning can be cut by adequate protective measures the chief of which is the automatic-sprinkler system is evinced by a study of sprinkler-fire records and by comparison of fire-insurance rates on such properties before and after protection.

From a paper presented at the June meeting of the American Society of Mechanical Engineers, Worcester, Mass. The authors are associated with the General Fire Extinguisher Co., Providence, R. I.

After War—Big Industries Supreme

Co-Operation and Combination Vital Elements For Success in the Coming Days of Intense Trade Rivalry—Leading Minds of England See Germany as Strongest Competitor—Plan Industrial Organization Second to None

BY DUDLEY DOCKER

IN the new world in which we shall find ourselves after the war every undertaking that wishes to succeed must be big, must be self-contained, and in such circumstances we should be able to exercise control over everything that affects the foundation and structure of our industry.

The electrical trade is a key industry and to be successful it must be organized on broad and sound lines. In the past it has been almost entirely controlled by other nations because there were too many competing interests in England, each suffering from insufficient equipment. It is our intention to strain every nerve and use to the full the resources of brains and capital to build up this industry. We are certain it will not only be to the ultimate good of the shareholders but a matter of considerable importance to the country itself.

I am convinced that upon electrical enterprise rests the fate of nearly every industry in the country, and I do not doubt that in various degrees our policy will have the support of the whole commercial world. After the war we shall have the keenest competition from Germany. I have obtained some particulars as to the amount of money spent by our enemies in the past in research and I think I am right in saying it is almost in excess of all dividends ever paid in this country by all our electrical industries. It is our intention to have a research department that shall be second to none in the world. We mean to cast our bread upon the waters and we hope for a reward that will not be delayed too long.

To Hold a Winning Place

At the outbreak of the war the manufacture of glass bulbs for electric lamps had been done almost exclusively abroad. In conjunction with the General Electric Co., we have purchased the British rights in special machines for making glass bulbs and we hope soon to have the first machine at work, when Great Britain will be independent so far as the manufacture of these bulbs is concerned. We have further entered into a partnership for the manufacture of abrasive wheels, another key industry, for which goods again we were largely dependent upon other countries. We are also arranging to take over another large manufacturing interest. One of the chief objects of our development has been to insure self-support to this country in trade and business that in the past has been in some degree controlled by other nations. I want you to lay hold of the fact that when our long delayed victory in the battlefield is crowned by a lasting peace we shall be found ready to take our proper position in the industrial competition that is certain to follow, and to hold a winning place.

I have drawn the attention of the public to the imperative necessity of amalgamations and combinations and I have been glad to see in recent times much progress in this direction. Some people have voiced fears that these amalgamations are trusts which secure monopolies to the detriment of the public's interests. I have no such fears and am wholly in favor of combining competing interests within reasonable limits, whether these interests be manufacturing, banking, baking, brewing, benevolent and charitable institutions or government departments.

Chief Competitor is Germany

I concede it is quite right to discourage the creation of monopolies but that is a very different thing to the combining of persons in particular trades to do away with such throat-cutting competition among themselves as leaves them, good simple folk, an easy prey to the foreigner, and forces them to cut down the wages paid to their own employes. You must remember that it is with Germany we shall principally have to compete after the war, that in Germany the policy of combination has been reduced to a fine art, and that it is against Germany in particular that we intend to wage implacable war until the conditions that stifled British trade in the past have been rendered impossible of revival.

I declare emphatically amalgamations and combinations aiming at the elimination of unfair home competition and its consequences are entitled to and may well demand support in the interest of the British race. If we are going to keep our

Era of Greater Industry

IN the great, new world after the war—mankind never peered into the future more intently than it is doing today. Like ancient mariners sailing dark seas, explorers stepping abroad in strange lands, we are moving forward to that new world, a world of greater promise and opportunity than time ever held for us, a world of new ideas and ideals, new standards, new values, new conscience. That time "when things return to normal," or, as they were before the war, will never come, for it is now understood that the war has advanced civilization and a return would be retrogression. Dudley Docker, one of England's foremost captains of industry, presents in the accompanying article a graphic picture of conditions that will obtain immediately after the war, if the events are not already shaping themselves. Among his most striking prophecies is the statement that British industries must be established on bigger lines if they would succeed. He advocates still greater combinations, the kind that will inspire the confidence and co-operation of workers, capitalists and governments. It is a reflection of the best British industrial opinion, as Mr. Docker is chairman of the Metropolitan Carriage, Wagon & Finance Co., a $53,000,000 corporation, which embraces practically all the railroad rolling-stock building concerns in Great Britain. As this statement, recently made by Mr. Docker to the stockholders indicates, the corporation is seeking to establish itself on a basis "second to none." The British industrial attitude toward Germany is especially significant.

place in the markets of the world we must be strong, and strength can only be gained by combination of effort and resources.

Let us then help ourselves, let us shake off our shackles and stretch our muscles and then when we have to compete with our rivals the country must see to it that we get from our government abundant support in a definite and organized manner and not in the sporadic and haphazard fashion that has paralyzed our efforts in the past.

Our nation's future depends on maintaining on a sound basis relations between employers and employed and the formation of a genuine alliance of capital and labor. I insist that the three things necessary for a solution of all labor difficulties are good faith, mutual confidence and common sense. Given these essentials we can work out our own salvation. We want no interference, state or otherwise. Britishers, masters and men, do not like it. From the workman we trust to obtain perseverance that maximum output can be maintained, and the employer should regard employes in the light of partners and treat them as such. He must be ready to promote their welfare and their happiness. We have found that by the establishment of works committees we are able to get into close touch with our employes and so smooth over little differences that sometimes if neglected might become big ones.

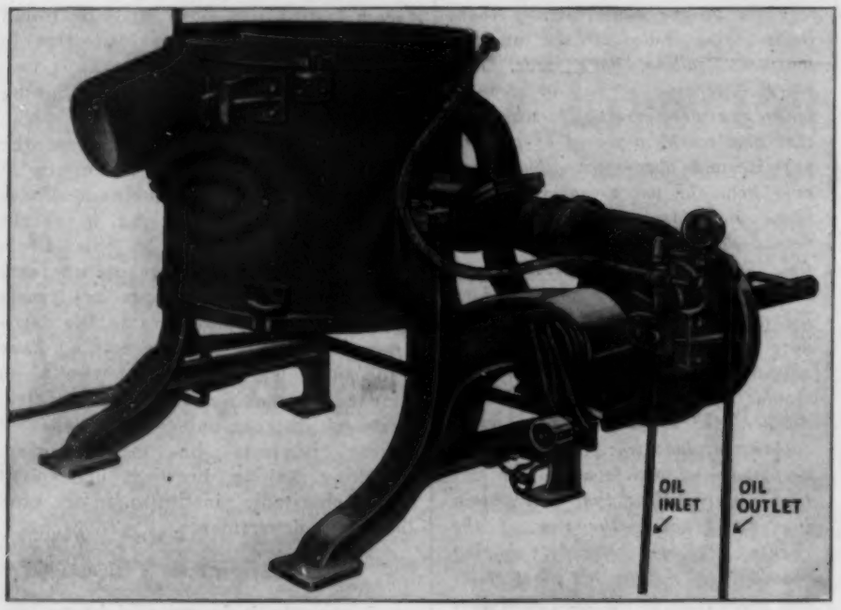
*The thirty-sixth keel was laid at the Hog Island shipyard recently. The first ship will be launched early in August.

Improved Melting Furnace

For melting brass and other nonferrous metals, the Hausfield Co., Harrison, O., recently developed the furnace shown in the accompanying illustration. This unit is of the open-flame, noncrucible tilting type with a melting capacity of 400 pounds. It is designed to use either gas or oil and the change from one to the other is said to be made readily as occasion requires.

The complete unit consists of the furnace proper, burner, ½ horsepower motor, fuel-oil feeder and a pouring ladle. No other equipment aside than piping to the gas or oil line is necessary.

The oil feed tank may be elevated over 18 feet and has a delivery pressure of 60 pounds. It is provided with an outlet pipe which connects with the oil reservoir. This feature permits the return of any excess quantity of oil.



COMPACT MELTING FURNACE FOR NONFERROUS METALS

The burner preheats the oil prior to its injection into the furnace. The needle valve is installed at the extreme end of the burner outlet and causes a spray of wide range.

To increase this range, and to break large particles of oil, a small division bar is located directly in front of the burner outlet. With this arrangement, it is said, all the oil supply is utilized and as the oil is preheated and finely atomized it ignites quickly. The flame covers the entire inner surface of the furnace which gives a uniformly distributed heat. It is pointed out that the plain shape of the drum facilitates relining. The bricks furnished have interlocking joints which prevent the seepage of metal.

The pouring ladle is held in slots over the notch where it remains during the melting of the entire heat. By this arrangement the ladle is heated to a high temperature. This feature is also said to aid materially in retaining the heat within the furnace.

The furnace is tilted by means of a handle of sufficient length to insure ample leverage for easy manipulation. The locking arrangement is actuated by a spring which has a tendency to keep a bar on the frame in constant engagement with the teeth of a sector attached to the drum. This securely holds the drum in any position desired.

The release of the locking device is effected by foot pressure on a treadle at the base of the unit. This permits the use of both hands for tilting or rocking the drum. For convenience, a double treadle is provided. One end of this treadle extends to the front and the other end to the rear of the operating side so that, when tilting, the most convenient treadle is used. Upon release of the foot pressure, the drum is locked instantly.

When the furnace is in a vertical position, it can be charged while the blast is on. The metal is preheated on the top of the drum, after which it is charged into the furnace by means of a bar, as fast as desired.

Trade Education Gaining

Vocational education in the states is being pushed by the federal board for vocational training. All of the 48 states now have accepted the government's grants for carrying out the work by matching the federal appropriations with equal amounts. Federally-aided vocational courses in trade and industrial subjects have been set up in 32 states. The work has extended beyond the scope of activities contemplated in the law under which the board operates. The board is promoting the training of conscripted men for army occupations, emergency training classes having been organized throughout the country.

Even more absorbing in its appeal to the federal board has been the investigation of methods developed in the belligerent countries for vocational rehabilitation of men disabled in the war. Coincidently with its organization, the board initiated its inquiries in this field and it has pressed these inquiries continuously during the past 10 months. A survey warrants the conclusion that the program of vocational education is in a fair way of being realized.

More Pig Iron Still Cry in England

Concentration of Furnaces on Basic Results in Shortage of Forge and Foundry Metal—New Flood of Finished Material Orders—Rolling Sheets for American Troops—Scrap in Big Demand

Bureau of THE IRON TRADE REVIEW,
Prince's Chambers, Corporation St.,
Birmingham, Eng., July 1.

IT is now recognized further efforts will have to be made to increase the supply of pig iron. Steelmaking irons are more plentiful partly because of the energy with which the change from the manufacture of forge and foundry iron to basic pig iron has been made. This has resulted in a shortage of forge and foundry iron, especially the latter. In the north of England a number of new blast furnaces are nearly ready for starting, and this will improve the situation. Plants are being extended as rapidly as possible to meet requirements. Unfortunately, the existing furnaces are not doing as well as they might.

At a meeting of the leaders in the iron trade in Birmingham, June 20, there were numerous complaints of difficulties connected with production, one of the most common being the unsatisfactory ore sent up from the mines. Apparently there is less supervision over this than there was, and a great deal of ore is being sent forward unsorted. There also were complaints of a lower quality of coke, while coal is insufficient in quantity and inferior in quality. The general effect is to lower the quality of iron so that the proportion of the best grade is much lower than it ought to be. All that the makers say they can do is to give such preference as they may to the most important priorities, all new customers being turned down. To supplement the short supplies of pig iron, all the available scrap is being eagerly utilized. Certain kinds of scrap material are scarce and the demand has led to the expectation that the government will issue a new order fixing a maximum price for old cast iron. There is a big call from the foundries for such scrap iron and the abnormal demand has sent up prices out of all proportion to prices on other kinds of scrap.

New Impetus to Finished Orders

There has clearly been a new impetus in the giving out of orders. Every ironmaster at Birmingham on June 20 reported that orders are being pressed upon him. They cover nearly every branch of finished iron, with the government as a leading buyer. Black corrugated sheets have now become a regular line. These orders are very acceptable because some time ago many of the local sheet mills were idle. The revival of business came with the arrival of the first American troops and it was understood that the sheets were to provide huts for them. The orders grow alike in numbers and in volume and more and more productive capacity is being called for to cope with them.

Demand for Light Material

Still keener demand exists for light material and high class steels used in connection with the production of aircraft, and much of this appears to be jointly ordered by the aircraft board and the admiralty, which are collaborating. The wire business also is lively and the great difficulty connected with the supply of wire rods appears to be overcome. The supply of these rods to the Birmingham wire rolling districts is a problem which in quieter times will doubtless be taken up in a systematic way. At present nearly all the steel has to be brought from a considerable distance, principally from South Wales and there seems to be no reason why large steel works much nearer Birmingham should not cope with this requirement. Nobody looks for the restoration of the continental supplies, especially from Germany, on which the trade some time ago relied.

The most troublesome question at present is that of coal supply. A number of the works have been operating on short time the last few weeks and have drawn the special attention of the ministry of munitions. In every case the explanation given has been shortage of coal.

No doubt now remains that the further enlistment of 50,000 men from the mines was a mistake, as it was promptly described by those most familiar with the local situation. It has transpired from a letter addressed by the coal controller to the miners that the military authorities have called a halt, on reaching the total of 25,000 and the second 25,000 are not to be taken from the pits. The change of policy is commended by all interested in coal supply.

A large call has been made upon the mining district of Cannock Chase to supply a heavy tonnage of coal to meet requirements of our allies, and it is expected that other districts will receive similar claims. Colliery proprietors declare the only possible means of meeting this demand is for a longer working day in the pits and the question is asked, why is not the miners' federation called for a frank discussion with the coal controller and the ministry of munitions? It is said the men should put in another half day per day, so as to furnish the proper coal supply. There was an undertaking some time ago that 60 more hours should be put on the working year of each man but it is asserted the men are not working extra time. Rather dismal accounts are received from London as to the stocks available there and it is felt some drastic step will have to be taken when the return of cold weather brings the domestic consumer once more into the market with large requirements.

Seek Lighter Jobs

A secondary difficulty of no small importance is that arising from the withdrawal of labor. The ironmasters were successful for the most part in staving off the demands of the recruiting sergeant, but they have not been equally successful in dealing with the puddler, roller, or other skilled workman inclined to seek a new job. Many of these workers have gone into engineering shops without the slightest financial loss and earned their money much more easily. The idea has now spread to the young assistants who have still greater financial inducements to leave the ironworks. The ironmaster is helpless because he cannot offer either men or boys higher wages, seeing that he has to comply with the rate fixed by the wages board. The government was asked at a special meeting of ironmasters a few days ago to prohibit such departures from the ironworks. This appears to be the only remedy available, but the system would be adopted with reluctance in view of the strong protest made a year ago against all such prohibitions which were said to be an improper interference with the liberty of the men.

Replogle Now Steel Administrator

Other Changes in Personnel of War Industries Board Are Given in Directory Just Published—Several Names Dropped and Others Added—New Division Formed to Cover Chemical Statistics

WASHINGTON, July 23.—Publication last week of a new directory covering the organization and personnel of the war industries board makes some disclosures which have not been understood generally. One of these is the listing of J. Leonard Replogle, formerly known as the director of steel supply, as steel administrator. Further on in the directory he appears as director of the steel division. Another point made clear is that Alexander Legge, formerly known as Bernard M. Baruch's right-hand man, is vice chairman of the industries board.

Under the classification of the steel divison, appears the name of J. S. Barclay, assistant to the director. Then appear the names of J. C. McLauchlan of Pickands, Mather & Co., as chief of the pig iron section; Paul Mackall of the Bethlehem Steel Co., chief of the rail, alloy steel and projectile bar section; Frank Purnell of the Youngstown Sheet & Tube Co., chief of the steel products section; and Frank E. Thompson of the Cambria Steel Co., chief of the steel supply section. The names of Capt. W. L. McCleary of the army, Lieut. Com. S. R. Fuller of the navy, J. W. Jasper of the shipping board, and Maj. Seth Williams of the marine corps, have been dropped, although these officers continue to represent their respective departments.

L. L. Summers, formerly director of the chemicals and explosives section, now is listed as technical advisor. Judge Albert C. Ritchie appears as general counsel. Under the price fixing committee Lieut. Col. R. H. Montgomery has been assigned a post, succeeding Lieut. Col. F. S. Young as the army representative. Secretary Baker has directed that Colonel Montgomery, in addition to representing numerous army branches, also represent the war department's board of appraisers. No other changes appear in the price fixing committee list, although announcement has been made that Henry C. Stuart, former governor of Virginia, has been given a place in the committee representing agriculture. He was suggested to Mr. Baruch by Secretary Houston.

Joint Office on Chemical Statistics

Then, among others, there is a new division, that of the joint office on chemical statistics. Lieut. W. B. Rice is office manager, the others in the division being Arthur Minnick, Henry H. Clapp, R. P. Dunning of the navy and M. R. Gordon of the army. Under the classification of commodity and miscellaneous sections, the electrical and power equipment section, which is headed by Walter M. Robbins, contains the additional names of John H. Waterman, Max Greenburg, William S. James, Thomas H. Knight, Allen P. Bender and Edward R. Welles. The conservation division appears for the first time, headed by A. W. Shaw, chairman. The other members include Malcolm C. Dizer, Richard Lennihan, George M. Leonard, Harry F. Bruning, J. Linden Heacoch, John Cutter, Herbert K. Taylor and J. Kearsley Mitchell.

Another new division is that of "forgings, guns, small arms, and small arms ammunition," which is under Samuel P. Bush, chief. Tullie V. Taylor is assistant chief. The small tools and hardware section has been changed to the hardware and small tools section. Murray Sargent continues as chief and in addition Lawrence J. Stoddard has charge of gages, Thomas F. Bailey mill supplies, and Alfred L. Lincoln, drills and reamers. Under the machine tool section personnel now is found the additional names of Floyd C. Lowell and Walter L. Ditforth.

Capital Odds and Ends

WASHINGTON, July 23.—The Emergency Fleet corporation let contracts for 61 vessels of 439,800 deadweight tons in the week of July 7, the shipping board announces. The steel boats number 47. One contract went to the Skinner & Eddy Corp., Seattle, for 35 steel cargo steamships of 332,800 deadweight tons. The Mobile Shipbuilding Co., Mobile, Ala., was given a contract to build 12 steel freighters for a total of 60,000 tons. K. M. Murdock, Jacksonville, Fla., will construct six wooden ships of 21,000 tons, and the Missouri Valley Bridge & Iron Co., Quantico, Va., will build seven of 24,500 tons and the Continental Shipbuilding Corp., Yonkers, N. Y., will build one vessel of 1500 tons.

* * *

The railroad administration has issued orders to provide against interference with the movement of refined copper, lead, zinc and brass.

* * *

Effective July 16, phosphorous sesquisulphide has been added to the export conservation list by the war trade board.

* * *

A rate of 37½ cents per gross ton on coal for transportation from, to or between interchange tracks, float bridges and all points on its line at Hoboken, N. J., is asked by the Hoboken Manufacturers' railroad.

* * *

Practically every movie theater in the country, the estimated total patronage being 60,000,000 persons, is now enlisted in the United States employment service to find labor for the farms, according to the department of labor.

* * *

The railroad administration has sent notices to all railroads in the United States that the Canadian Government Railways desire to rebuild their box cars in series 248,000 to 248,199. Arrangements are to be made for movement of equipment in this series to the Canadian railways, either empty or loaded.

* * *

The bureau of industrial housing and transportation of the department of labor, has awarded a contract for the construction of 85 houses at Charleston, W. Va., to the Willis-Egelhof Co., New York. This is one of the first contracts for the erection of houses to be authorized under the general housing program.

* * *

Considerable tonnage space is being saved by the quartermaster corps in shipment of dried fruits for the American expeditionary forces, the war department states. Fruits are being shipped thoroughly dried instead of in a semidried condition as formerly. The new plan is expected also to act as preventive against spoilage and worms.

* * *

That there is no chance for the United States to get the amount of potash needed to meet demands next year, food adminstration experts believe. Estimates show that there should be from 400,000 to 500,000 tons of potash salts for 1918. This is only about half the normal imports before the war. Commercial fertilizer concerns must suffer the most of the shortage.

War Increases

Fire Brick Needs—Producers Operate At 90 Per Cent Capacity

Pittsburgh, July 22.—Discussion with regard to the supply of fire brick and other refractories for present and possible future demands of the steel and other industries of exceptional importance to the successful prosecution of the war was indulged in at a meeting held here on Thursday and Friday of last week by the Refractories Manufacturers' association. It was found that none of these industries is suffering from a lack of supply and that the balance between orders on hand and brick in stock and in the process of manufacture is being satisfactorily maintained. Reports showed that the industry is operating at about 90 per cent of its actual producing capacity. The slight falling off in output is due largely to labor conditions which had been seriously affected by the military draft and the insistent call of the shipbuilding and munitions industries.

Some sentiment was expressed in favor of legislative action with relation to the liquor problem, claims being made that the efficiency of working forces was greatly affected by a well-defined labor turnover immediately following each pay day. As practically all labor in the refractories industry may be classed as skilled or semi-skilled, the constant breaking in of new men to replace those not working steadily had a tendency to affect not only the quantity but also the quality of the product.

Considerable attention was given to the matter of welfare work and to labor conditions in general, it being recognized that the questions of fuel and car supply, both of which were having a serious influence on production during the earlier part of the year, are now much less important as all plants seem to have a satisfactory supply of both fuel and cars.

The increased freight rates on fire clay and ganister rock and on all other supplies used in the refractories business was found to have been reflected in the cost of manufacture and the wage increases which went into effect in April and May also were found to have caused a heavy cost advance. These items, when considered in connection with the falling off in the efficiency of laborers, pointed toward an increase in cost as of June 30 as compared with the latter part of last year, of from $6 to $8 for each 1000 fire clay brick and somewhat more than that on silica.

Refractories

(Per 1000 f. o. b. works)

FIRE CLAY BRICK.	
(First Quality)	
Pennsylvania	$45.00 to 55.00
Missouri-Illinois	55.00 to 65.00
Ohio	45.00 to 50.00
Kentucky	45.00 to 55.00
New England	55.00 to 65.00
FIRE CLAY BRICK	
(Second Quality)	
Pennsylvania	$40.00 to 50.00
Ohio	35.00
New England	48.00 to 58.00
SILICA BRICK.	
Pennsylvania	$50.00 to 60.00
Chicago	55.50 to 65.50
Birmingham	45.00 to 55.00
MAGNESITE BRICK	
(Per Net Ton)	
9 x 4½ x 2½	$110.00 to 130.00
CHROME BRICK	
(Per Net Ton)	
9 x 4½ x 2½	$135.00 to 140.00
BAUXITE BRICK	
(Per Net Ton)	
55 per cent	$40.00 base
76 per cent	100.00 base

Bethlehem Operates Ovens

At the Steelton, Pa., plant of the Bethlehem Steel Co., a new battery of 60 by-product coke ovens was placed in operation recently. These ovens were built by the H. Koppers Co., of Pittsburgh, which began construction work upon them in November, 1916. Each oven has a capacity of 12¼ tons and the total output is 700 net tons of coke per day of 10 hours coking time, or 1000 tons on a 24-hour day basis.

Auto Makers Object

To Cut In Output to 25 Per Cent of 1917 Quota

Chicago, July 22.—Interest and anxiety is evident in Detroit automobile circles. The request made to the war industries board for sufficient steel for a 60 per cent passenger car production has not been granted. The board has said that only 25 per cent of last year's requirements can possibly be granted. Manufacturers say this will be insufficient. They point out that even with 25 per cent allotted to them their stocks of different grades of steel would be insufficient to assure 25 per cent production. Some special alloy steels are held in stock, which might be worked up should their apportionment of new steel consist of other grades, upon which there is a decided shortage. Hugh Chalmers, who represents the car industry at Washington, believes that the restriction spells ruin to the passenger-car industry. The daily output of the Ford Motor Co. within 30 days will be only about 300 passenger cars and 450 trucks. This number will be for the regular trade alone. Additional ambulances and trucks required for the government service will not be included.

Williams & Co., Inc., 220-226 Penn avenue, Pittsburgh, have increased the size of their quarters. They have added brass rods, squares and hexagons to their stocks of tubing, rods, nickel and monel metal.

Ford's First Eagle Launched

Eight More 45-knot Submarine Chasers to Follow in Rapid Succession—Wage Demands Close Canadian Ford Plant

DETROIT, July 23.—EAGLE-1, the first of the new type of submarine chaser, was launched at River Rouge recently as Henry Ford's initial contribution to the United States sea-fighting forces. The launching, without special ceremony, was supervised by Commander Allan F. Cook, River Rouge training station, and Mr. Ford. Eight more EAGLES are to be launched soon.

Work on the foundations for the River Rouge shipbuilding plant was started Feb. 20 and the building of the first vessel was begun before the roof was on. The new boats, designed to develop 45 knots an hour, will be 204 feet long and will be equipped with the navy's latest invention, a device to enable them to detect a submarine within a radius of 30 miles. Motive power will be supplied by steam turbines, burning crude oil. The tank capacity is sufficient for the vessels to cross the Atlantic. No forgings or rolled beams are used in the ships, the material being cut from cold metal by machinery which cuts every piece to exact pattern, punches all rivet holes, and then bends it to its proper shape.

When the shipbuilding plant is in full operation, 21 boats will be under construction simultaneously. Plans provide for the employment of 25,000 men.

Ford's Canadian Plant Closes

The plant of the Ford Motor Co., of Canada, Ltd., which manufactured the Ford car and truck for the dominion, has been closed indefinitely. The 500 employes organized to demand $5 a day, the wage paid in the Detroit plant, and Vice President Gordon M. McGregor, in rejecting the demand, announced suspension. Stock of the company is held by the public, the plant operating merely under Ford licenses. Henry Ford is the controlling stock-

Electrical Men

Organize War Committee to Furnish Electric Furnace Information

Electric furnace manufacturers have organized a war service committee for the purpose of compiling information relating to the electric furnace industry in connection with the production of steel, nonferrous alloys and metals, and in general where the melting problem is concerned. This committee will continue for the duration of the war and for such a period thereafter as is necessitated by the demands of the government for information regarding this industry. At a recent meeting held in New York city, the following permanent committee was elected: G. H. Clamer, Ajax Metal Co., Philadelphia, chairman; F. J. Ryan, Electric Furnace Construction Co., Philadelphia, secretary; John G. Bergquist, Hamilton & Hansell Co., New York; S. N. Castle, General Electric Co., New York, and C. B. Fletcher.

The following companies are affiliated with this war service committee: Hamilton & Hansell Co., New York; John A. Crowley Co., New York; Ajax Metal Co., Philadelphia; American Metallurgical Corp., Philadelphia; Electric Furnace Construction Co., Philadelphia; Pittsburgh Furnace Co., Pittsburgh; Booth-Hall Furnace Co., Chicago; Industrial Electric Furnace Co., Chicago; C. W. Leavitt & Co., New York; Ludlum Electric Furnace Co., Woolworth Bldg., New York; T. W. Price Engineering Co., New York, and Beckman & Linden Corp., San Francisco, Cal.

The first meeting held in May was called at the request of the general war service committee of the electrical manufacturing industry. At that time the suggestion was made that the electric furnace manufacturers should effect an organization to act under this general war service committee and to furnish information regarding the electric furnace industry to the government in its war preparations.

Ratifies Thyssen Booklet

Additional evidence that the Thyssen pamphlet which has been widely circulated by Joseph G. Butler Jr., Youngstown, O., as disclosing Germany's plans to dominate the world, is developed by a statement by C. A. Meissner. Mr. Meissner is head of the United States Steel Corp.'s by-product coke committee. He states that he was in Germany shortly before the outbreak of the war as a guest of Mr. Thyssen. At that time the German steelmaker made strong intimations that such plans were being formulated. "So strong were these intimations," says Mr. Meissner, "that there can be no reasonable doubt that Mr. Thyssen actually is the author of the damning pamphlet disclosing the kaiser's war program."

Subcommittees Are Formed

Classification committees of the Pittsburgh region war resources committee have been named. Among these are the iron and steel products and machine shop work committees. The former consists of the following members: A. M. Harper, Carnegie Steel Co., chairman; H. S. Blickle, Fort Pitt Bridge & Iron Works, representing structural work; I. F. Lehman, Blaw-Knox Co., representing plate work; J. G. Deericks, Pittsburgh Steel Co., representing wire nails and wire mills products; Henry Oliver, Oliver Iron & Steel Co., representing bolts, nuts and rivets; Joseph V. Smith, Hubbard & Co., representing shovels and spades; H. S. Spangler, McKinney Mfg. Co., representing other general hardware; E. L. Parker, Columbia Steel & Shafting Co., representing shafting; James H. Hammond, Superior Steel Corp., representing cold rolled strip steel and kindred products.

The machine shop work committee consists of the following members: Charles J. Mesta, Mesta Machine Co., chairman, and H. D. Wilson, Wilson-Snyder Mfg. Co.

F. H. Crockard Resigns

Frank H. Crockard has resigned as president of the Nova Scotia Steel & Coal Co., New Glasgow, N. S. He is succeeded by Col. D. H. MacDougall, general manager of the Dominion Steel Corp. Col. MacDougall has been affiliated with the iron and steel development of Canada for a great many years. Mr. Crockard is well known in the United States, particularly on account of his splendid record as vice president and general manager of the Tennessee Coal, Iron & Railroad Co., with which he was associated for 11 years. Mr. Crockard's plans for the future have not been announced.

With a brand of patriotism over 100 per cent, employes of the National Wrapping Paper Machine Co., Nashua, N. H., recently voted to work a half hour extra each week, donating the money thus earned to the various war funds. An equal amount to the money thus raised will be donated by the company.

German High-Speed Steel Process Released

A secret German process for making high-speed steel will become available for American manufacturers as a result of the seizure recently of the Becker Steel Co. of America by the alien property custodian. This company, the offices of which are located at 90 West street, New York and the principal plant at Charleston, W. Va., has been under investigation for some time by the bureau of inquiry. The probe has brought out that 5000 of the 5297 shares of stock of the company that are outstanding were being held in trust by Wilhelm Peters, a German subject, for Reinhold Becker and the Aikten Gesellschaft of Willich, Germany. This of course laid the concern open to seizure.

The steel which the company has made under a patented German process, because of its peculiar qualities of hardness and toughness, has been in great demand by toolmakers, automobile manufacturers and other users of a steel that will not soften too much nor lose its cutting edge when driven at a high speed. The formula of the process is believed to include tungsten and ferrovanadium, as the government investigation uncovered the fact that in 1916, Adolph J. Becker, vice president of the company and a brother of Reinhold Becker, bought and shipped to Germany on the merchant submarine DEUTSCHLAND, 33,075 pounds of tungsten. It also was brought out that Adolph Becker was holding $54,476 in cash for his brother, this sum being the remainder of $140,000, sent by Reinhold Becker to this country to purchase tungsten and other steel alloys.

A. Mitchell Palmer, alien property custodian, in Americanizing the company has put it into the hands of a new directorate, comprising William H. English, vice president, Empire Trust Co., New York, who will be chairman; A. M. Sawtelle, mining engineer, 5 Beekman street, New York; Paul T. Brady, Westinghouse Electric & Mfg. Co.; George Dix, Midvale Steel & Ordnance Co.; W. A. McCorkle, president, Citizens National bank, Charleston, W. Va.; Royal H. Weller, 31 Nassau street, New York; and William E. Hilton, Charleston, W. Va.

It is understood that the Wilbur B. Driver Co., Harrison, N. J., is negotiating for the purchase of the business of the Murray Wire Co., Belleville, N. J. Wilbur B. Driver is president and owner of the Murray company which manufactures electrical resistance wire of various kinds, pure nickel wire and nickel alloys. It also will manufacture castings suitable for use at high temperatures.

Capital Busy With Labor Problems

Settlement of Many Disputes Assigned to Iron and Steel Men on War Labor Board —Labor Activities Are Co-ordinated—Housing and Transportation Departments Are to Work in Harmony

IN harmony with a plan recently inaugurated the assignment of sections of the national war labor board to hear certain controversies now before the board, has been made. Iron and steel workmen's complaints are among these scheduled. Some of the assignments are:

Loyall A. Osborne, vice president, the Westinghouse Electric & Mfg. Co., and T. A. Rickert, president of the Garment Workers' union, will inquire into the facts in a controversy involving molders of the Avery company, Peoria, Ill., manufacturer of farm implements.

B. L. Worden, president, the Lackawanna Bridge Co., and general manager, the Submarine Boat Corp., and Adam Wilkinson, member of the executive board of the United Mine Workers of America, have been assigned to the controversy between the organized bridge and structural iron workers and machinists and the Ft. Pitt Bridge Works, Canonsburg, Pa.

Differences between the Willys-Overland Co. and its employes at Elyria, O., have been referred to Herbert H. Rice, vice president, the General Motors Co., and Thomas J. Savage, member of the executive board, the International Association of Machinists.

John F. Perkins, president, the Calumet & Hecla Copper Mining Co., and William H. Johnson, president, the International Association of Machinists, are to hear the controversy between the Pollak Steel Co. and its employes at Cincinnati.

Conciliators Adjust Disputes

Among the labor disputes adjusted by conciliators of the department of labor in a recent two-week period were strikes at the plants of the Lombard Iron Works, Augusta, Ga.; yard laborers at the Arkansas Zinc & Smelting Co., Van Buren, Ark., and employes of the Portable Elevator Mfg. Co., Bloomington, Ill.; and controversies at the Kokomo Steel & Wire Co., Kokomo, Ind., the Athletic Mining & Smelting Co., South Fort Smith, Ark., the Ft. Smith Smelter Co., Ft. Smith, Ark., and the B. F. Sturtevant Blower Co., Hyde Park, Mass.

Of 11 other industrial disputes settled, nine were controversies, one a strike, and one a lockout. The controversies were at the plants of the Canton Sheet Steel Co., Canton, O.; the Hoover-Owen-Rentschler Co., Hamilton, O.; tin plate mills, Elwood, Ind.; Lombards Iron Works, Augusta, Ga.; patternmakers, Muncie Foundry & Machine Co., Muncie, Ind.; the Lanyon-Starr Smelting Co., the Bartlesville Zinc Co., and the National Zinc Co., Bartlesville, Okla. The strike was that of steamfitters at the plant of the Virginia Shipbuilding Corp., Alexandrie, Va.; and the lockout at the Warner Gear Co., Muncie, Ind.

To Co-Ordinate Activities

Final arrangements in the organization of the war labor administration have been made in formation of a department cabinet embracing executives of all labor branches. This cabinet includes chiefs of all bureaus now in the department, together with others in process of organization. The new organizations are: A woman industry bureau, which will deal with all industrial problems involving women; a conditions of labor bureau which will set up and administer conditions of labor within business plants, such as safety, sanitation, working conditions, etc.; a training and dilution bureau which will have charge of training of workers for war occupations requiring particular skill; a bureau of labor adjustments, which will supervise essentially the same work now conducted by division of conciliation in the department, and will have jurisdiction over settlement of strikes, lockouts and other labor disputes; an investigation and inspection service, which will make investigations other than statistical into labor conditions for purpose of keeping the department informed continuously upon labor problems as they arise.

The war and navy departments and the shipping board are represented through the chairman of the war policies board, which embraces representatives from all production and distribution departments.

After a recent conference between A. Merritt Taylor director of passenger transportation and housing of the Emergency Fleet corporation, and O. M. Eidlitz, director of housing and transportation of the department of labor, the following general statement was made:

"We have adopted policies whereunder our respective activities will be carried on in complete co-operation and accord, to the end that duplication of effort will be avoided and maximum results will thereby be obtained for the government at a minimum cost with maximum efficiency.

"We have a complete understanding whereby the activities of the United States housing corporation of the department of labor and the passenger transportation, housing division of the Emergency Fleet corporation, will at all times be fully informed with relation to their respective projects, procedures and all matters relating thereto; and that all information of the one department will be available for the use of the other at all times.

"One matter that has been causing us a great deal of concern in solving the problem of promptly supplying workers to the plants, is inadequate passenger transportation facilities on electric railways.

"Investigation proves there are difficulties inherent in this connection which make an immediate and complete investigation not only desirable but imperative. This investigation will be taken up by the two organizations jointly without delay."

It is reported the government, through the housing bureau at Washington, is prepared to spend $2,500,000 for homes in Quincy, Mass., for employes of the Fore River Shipbuilding Co. The houses will be of permanent construction. The housing bureau places the proviso that they may be erected within 15 minutes' walk of the shipbuilding plant.

Workers Pledge Loyalty

Youngstown district iron and steel workers are giving their pledge to be 100 per cent faithful in their duties during the war as a result of a campaign conducted in this territory by Frederick F. Searing, district manager, national service production division of the Emergency Fleet corporation. Employes of the Brier Hill Steel Co., William B. Pollack Co. and the Sharon Steel Hoop Co. also have given their pledge. Many meetings are to be held at other plants. Youngstown has been named the headquarters of this district, comprising Ohio, western Pennsylvania, West Virginia and New York.

Men of the Iron Trade

Personal News of a Business Character Regarding the Men of Affairs of the Industry

WILLIAM W. CORLETT, who succeeded Col. Raynal C. Bolling, as general solicitor of the United States Steel Corp. when the latter died in the service of his country on the battlefields of France last March, is exceedingly young, from a comparative standpoint, to fill a post of such an important character. Born in New York city in 1885, he graduated from Harvard college in the class of 1906, and thereafter completed a course at the Columbia university law school. All of his active experience since then has been in the legal department of the Steel corporation, which he entered in 1908. In 1913 he was appointed assistant general solicitor and shortly after was made assistant to Colonel Bolling, until the latter withdrew from his duties as general solicitor to join the aviation corps.

J. K. Williams has resigned as president of the J. K. Williams Foundry & Machine Co., Akron, O.

Philippe Berger, 2 Square de l'opera, Paris, France, has been appointed general agent in France and Belgium for the American Steel Export Co., New York city.

George A. Armes, former chief engineer of the Union Iron Works Co., San Francisco, is now affiliated in an important capacity with the Moore Shipbuilding Co., Oakland, Cal.

G. Stanley Porter has taken charge of the steel wheel department of the Hayes Wheel Co., Jackson, Mich. He was formerly factory manager of the Jackson Rim Co., of that city.

Loring G. Calkins, who has been a sales representative with Rogers, Brown & Co., Chicago, for 12 years, resigned recently to take a similar position with another company.

Harry V. Hunt was recently appointed general manager of the O'Neil Iron Works, Buffalo, having resigned as general superintendent of the Consolidated Press Co., Hastings, Mich.

W. H. Hubbard Jr., who for the past four and one-half years has been engineer for the Balbach Smelting & Refining Co., Newark, N. J., has accepted a similar position with the Northport Smelting & Refining Co., Northport, Wash.

J. H. Edmunds who has been in the employ of the American Iron & Steel Mfg. Co., Lebanon, Pa., for several years has been made assistant to the general manager of the Lebanon, Pa., plants of the Bethlehem Steel Co.

R. W. Ellingham, who resigned earlier in the year from the Bilton Machine Tool Co., Bridgeport, Conn., to become works manager of the Heald Machine Co., has returned to the Bilton company to accept the position of sales manager.

WILLIAM W. CORLETT

W. P. Pressinger, former manager of sales, and W. H. Callan, former manager of plant and operation of the Chicago Pneumatic Tool Co., Chicago, recently were elected as vice presidents by the board of directors. J. T. Price remains as vice president and J. G. Osgood, formerly vice president, is dropped from the list, remaining with the company as director of sales of pneumatic tools.

Adolph Kalberer has been appointed superintendent of the plant recently placed in operation by the Liberty Tool & Gage Works, Woonsocket, R. I. This company has been organized to design and build tools, gages and special machinery.

Capt. William J. Richards, general superintendent of the McKinney Steel Co.'s mines on the Menominee and Gogebic ranges, recently retired after 18 years' service. Emerson D. McNeil is his successor.

J. M. Wilson has resigned as editor-in-chief of *Canadian Machinery* and allied publications of the MacLean Publishing Co., Ltd., Toronto, Ont., to accept a position on the engineering staff of the Standard Parts Co. Inc., Cleveland, Ohio.

George W. Moore has succeeded J. M. Smith who recently resigned as assistant general superintendent of the Whitaker-Glessner Co., Portsmouth, O. Howard K. Moore who has served the company as office manager is now assistant to President Andrew Glass.

Walter Phillips, of F. R. Phillips & Sons Co., New York, now is acting as assistant to his brother, W. Vernon Phillips, chairman of the American Iron and Steel institute's subcommittee on scrap iron and steel, Pennsylvania building, Philadelphia.

W. T. Woodrow was recently made manager of the Manitowoc, Wis., plant of the Aluminum Castings Co., Cleveland. He succeeds Howard Emery, who recently was transferred to the Detroit plant, of which he had charge prior to going to Manitowoc several years ago.

Frank L. Cavanagh, former sales agent at Dayton, O., for the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., resigned recently to become vice president of the Fauver-Cavanagh Co., Detroit, exclusive distributors in Wayne county, Michigan, of Prest-O Lite Co. products.

T. O. Yost, former roller at the Berger works of the Stark Rolling Mill Co., Canton, O., has been appointed assistant superintendent of the Inland Steel Co.'s sheet mill at Indiana Harbor, Ind. Mr. Yost was born in Canton. He has had a high school and business college education and attended Heidelberg university at Tiffin, O., for two years. In 1906, he was employed by the Stark company as doubler and worked himself up to the occupation of roller.

Men of the Iron Trade

Personal News of a Business Character Regarding the Men of Affairs of the Industry

COL. D. H. McDOUGALL, has resigned as manager of the Dominion Steel Corp., to become president of the Nova Scotia Steel & Coal Co., Sydney, N. S., succeeding F. H. Crockard who resigns to enter upon new duties in the United States. Mr. McDougall was appointed assistant general manager of the Dominion Coal Co., in 1909, and his first achievement was the settlement of the strike then in progress. A year later he succeeded in ending the protracted stoppage of work at Springhill mines. During the term of his management of the Dominion Coal Co., at Glace Bay, N. S., an extensive program of extension was carried out. New coal mines were opened up and equipped with the most modern machinery. A central power station was installed, and all auxiliary operations were co-ordinated. This resulted in an increase in the output of coal from 3,500,000 to 5,000,000 tons annually. Mr. McDougall's connection with the Dominion Iron & Steel Co., has been almost continuous since the construction of the plant at Sydney was commenced. He has been successively resident engineer, resident manager of the Wabana iron ore mines, superintendent of mines and quarries and latterly general manager of the Dominion Steel Corp., which position he had filled since the beginning of 1916. Here, too, the properties have undergone extensive expansion under his direct supervision. New ore mines have been developed, and the opening up of the model limestone quarries at Portauport, N. F., was the result of his initiative.

Henry M. Garlick, banker and industrial leader of Youngstown, O., has been elected a director of the Sharon Steel Hoop Co. He is chairman of the board of directors of the First National bank, Youngstown, president of the Standard Oilcloth Co., and a director of a number of other large companies in that city.

L. V. Marso, formerly maintenance engineer of the Girard, O., plant of the A. M. Byers Co., Pittsburgh, has been placed in charge of the powdered coal equipment department of the branch office opened in the Oliver building, Pittsburgh, by the Quigley Furnace Specialties Co., New York. J. L. Cummings Jr., formerly connected with the company's sales department at New York, will handle the specialties department in Pittsburgh.

Howard M. Hanna Jr., Cleveland, will serve as president during the ensuing year of the Detroit Iron & Steel Co., Detroit. Other officers follow: Frank Richards, Cleveland, vice president; R. S. Grant, Cleveland, secretary; W. S. Whitcomb, Detroit, assistant secretary and treasurer. Patrick J. Moran is plant manager.

John McE. Bowman, New York, was elected chairman of the executive committee of the Bon Air Coal & Iron Corp., Nashville, Tenn., a newly created office. James R. Offield, Chicago, was re-elected president to have charge of the Chicago office. Two names have been added to the directorate as follows: Col. Jacob Ruppert, president and owner of the Ruppert Breweries, New York, and Edwin C. Goshorn, general manager of the National Lead Co., Cincinnati.

George Hutchinson, who for 12 years has been yard superintendent of the steel works of the Tennessee Coal, Iron & Railroad Co., Birmingham, Ala., has been appointed superintendent of construction of the Chickasaw Shipbuilding Co., Mobile, Ala., subsidiary to the Tennessee company. C. E. Farnum succeeds Mr. Hutchinson at Birmingham. Prior to locating in Birmingham a few years ago, Mr. Farnum was located in South America. Mr. Hutchinson's previous connection was with the Lackawanna Steel Co., Buffalo.

Dwight P. Robinson and John W. Hallowell retired July 1 from partnership in the engineering and corporation management firm of Stone & Webster, New York. The remaining partners are Charles A. Stone, president of the American International Corp.; Edwin S. Webster, Russell Robb, and Henry G. Bradlee. Mr. Robinson was president of the Stone & Webster Engineering Corp., since 1908, and in the spring of 1917, when the American International Shipbuilding Corp. was formed as a subsidiary of the American International, to build and operate the government fabricating shipyard at Hog Island, he was elected president of that corporation, but last March he was removed from charge of the work by Rear Admiral Bowles, assistant general manager of the Emergency Fleet corporation, who is in direct charge of the Hog Island yard on behalf of the government. Mr. Hallowell has been with Stone & Webster since 1901, and in 1917 he was called to Washington by Herbert C. Hoover as a member of the United States food administration, and expects to continue in that service for the duration of the war.

August F. Lindow, who has been with the Michigan Bolt & Nut Works, Detroit, 47 years and its superintendent since 1894, has resigned to become welfare director. William H. Urquhart, who became mechanical engineer six years ago and who has been assistant superintendent for a considerable portion of that time, succeeds Mr. Lindow as superintendent. Mr. Urquhart was graduated from the engineering department of the Michigan Agricultural College in 1911, and was engaged in designing special machinery until 1912. Curtiss F. Smith, who has been made assistant superintendent, was born in New Britain, Conn. He was graduated from the mechanical engineering course of Pratt institute, Brooklyn, N. Y., with the class of 1904. For several years he designed special machinery in several large manufacturing plants in the east, especially the Electric Vehicle Co., Hartford, Conn. In 1907 he entered the employ of the Upson Nut Co., Unionville, Conn., on special machine designing and improvements, and in 1909 was transferred to their main plant at Cleveland. In 1917 he resigned to become assistant chief engineer with The Baker R. & L. Co., Cleveland. Henry M. de Vries, who entered the employ of the Michigan Bolt & Nut Works as office boy 30 years ago and who has worked up through various positions to production and traffic manager, has been appointed purchasing agent and traffic manager. Max F. Ruprecht, who 26 years ago was employed as a boy in the packing department and who has advanced through various departments to the position of shipping clerk, succeeds Mr. de Vries as production manager.

Iron and Steel Financial News

Up-to-the-Minute Fact and Comment Collected and Sifted For Busy Readers

Street Avoids Early Peace Conclusion

JUST as it dominated other things in the nation the past week, the stirring news from the western front was the all-absorbing topic in financial and business circles. When the fact became definitely established that the Germans were being driven back mile by mile before the onslaught of the Americans and French, Wall Street was thrilled by the news. Stocks were bought freely and prices advanced from one to five points. Trading grew excited and transactions much more numerous, even though close supervision of banking funds and the close control of many lines of industry by the government have been powerful factors in determining the course of business on the stock market. United States Steel common, long the speculative favorite, rose 3⅞ points in one day, on a turnover of 170,000 shares, for Steel common, long known as a peace stock, is also considered to have its war potentialities.

But the striking events on the western front did not lead Wall street or business men as a rule to jump to any conclusions as to an early peace. There were some who predicted that last week's developments might be the turning point upon which the allies would take the initiative from the Germans and that the German high command seeing no hope of a military victory, might shortly endorse a strong peace offensive. At the least, the failure of the latest phase of the German drive was expected to exert tremendous moral influence on the German civilian population. There are some people who believe the war can last no longer than one year, but most of these people are not engaged in industry or business that brings them into contact with the government's war preparations. These plans seem to provide for at least three more years of war and are comprehensive enough for 10 years of war.

Wall street breathes the spirit of the country generally in feeling that the war must proceed at all cost and sacrifice until the enemy is whipped to the earth and an effectual preventive be established so that the world will not again be scourged for generations. In the words of a leading stock exchange house, "Germany, the most abominated criminal of history, must be sentenced —not allowed to negotiate for peace. There must be no conference, no peace table. There must be only unconditional surrender, and after that, terms of PUNISHMENT dictated by the allies."

Renewed evidence of the well-grounded confidence in the future of the steel industry held by both the investing and speculative public was seen last week in the rapid sale of the Bethlehem Steel Corp. $50,000,000 note issue, and in the advance on the New York stock exchange of shares of Bethlehem, United States Steel and other leading steel issues. Bethlehem stock was stimulated by the surprisingly eager manner in which the public absorbed the full amount of the issue, rendering it unnecessary for the underwriters to take advantage of the War Finance Corporation's offer to invest $20,000,000, in case the notes were not disposed of to the public. A growing belief that the U. S. Steel corporation will maintain its present dividend rate on common very largely accounts for the strength of this stock. A part of the new Bethlehem note issue will be used to make certain improvements at Sparrows Point and to recupe working capital, but in the main the money will be employed for refunding purposes. In view of the tremendous expansion in business and capitalization in the last few years—Bethlehem stock and bond issues have jumped from $60,869,000 Dec. 31, 1915, to $237,018,000 Dec. 31, 1917—the fact that this latest operation is largely of a refunding nature is particularly important. It will not increase the company's liabilities and will only increase the fixed charges by the difference in rate of interest between the expiring notes and this issue—$1,000,000. The notes were sold to yield the high rate of from 7½ to 7¾ per cent.

Federal Resources Grow

Between Dec. 31, 1917 and May 10, 1918, an increase of $92,000,000 was made in total resources of the federal reserve banking system. On May 10, the resources of 8134 member banks aggregated $24,070,000,000. This included $18,132,000,000 resources of the 7683 national banks and $5,938,000,000 resources of the 449 state banks members of the reserve system. Loans and discounts on May 10 amounted to $12,142,000,000; Liberty bonds and other government securities held by the banks, $3,196,000,000; other securities, $2,728,000; demand deposits, $11,050,000,000; time deposits, $3,340,000,000; capital stock paid in, $1,367,000,000; surplus, $1,143,000,000. By districts resources were reported as follows: New York, $8,156,000,000; Chicago, $3,170,000,000; Cleveland, $2,206,000,000; Boston, $1,791,000,000; Philadelphia, $1,698,000,000; Kansas City, $1,319,000,000; San Francisco, $1,315,000,000; Richmond, $1,000,140,000; St. Louis, $976,000,000; Minneapolis, $877,000,000; Atlanta, $831,000,000; Dallas, $726,000,000. Resources of the 133 banks in central reserve cities were $8,497,000,000, slightly more than the $8,458,000,000 resources of the 7558 country banks. The 441 banks in other reserve cities report resources of $7,115,000,000.

American Shipbuilding Co. Has Best Year

Authenticated reports indicate that the American Shipbuilding Co., Cleveland, has just closed the most prosperous year of its history. Earnings trebled those of the previous year and the profit and loss account is doubled over what it was one year ago. Preliminary estimates reveal that the total earnings of the company during the past fiscal year which ended June 30 were close to $13,000,000.

After all deductions including a tax allowance of $5,000,000 there remains approximately $6,500,000 available for the common stock. This return is at the rate of 85.52 per cent on the $7,600,000 of outstanding common stock. In the 1917 fiscal year the company earned $4,501,956, and showed a surplus of $1,786,540. The total surplus as of June 30, 1917, was $5,147,564. This year's surplus therefore will bring this

account well above the $10,000,000 mark.

While the company taxes for the 12 month period are figured at $2,400,000, an allowance of $5,000,000 has been made and the surplus probably will be applied on next year's tax outlay. During the year the company has paid $533,000 in preferred dividends, and has distributed 15¼ per cent on the common. The last common stock dividend, declared at the June meeting of the directors, totaled 6¾ per cent—1¼ per cent regular and 5 per cent extra in 3½ per cent Liberty bonds.

In view of the demands being made for new capital, the company's cash position is unique. Its indebtedness is confined to current bills and an issue of $350,000 bonds of a subsidiary company. It has no notes payable. In addition the company's cash holdings approximate $11,000,000. It has $2,000,000 in its treasury, $5,000,000 in Liberty bonds and $4,000,000 in interest bearing certificates of deposit. Recently it was granted a $53,000,000 contract by the government. None of the profit on this, estimated at 10 per cent, will show in the 1918 statement.

Has Remarkable Recovery

Net profits in January and February of this year for the Allis-Chalmers Mfg. Co., Milwaukee, totalled $778,841, an average of nearly $390,000 a month. During March, April and May the total net earnings were $1,877,446 an average of $625,000 for each month. Thus is evidenced a striking recoverey from the hampering conditions of the beginning of the year. The total earnings for the first five months were $2,656,287 as against $1,597,722 in the first five months of 1917. A comparative statement of the five months' earnings, etc., in 1918 and 1917, follows:

	1918	1917
Net profits	$2,656,287	$1,597,722
Preferred dividends	810,335	878,357
Balance for common	1,845,952	719,365
Previous surplus	5,868,772	3,546,975

Marlin-Rockwell Corp. Buys Braeburn Plant

To insure a supply of high-grade alloy steels, the Marlin-Rockwell Corp. recently acquired the plant of the Braeburn Steel Co., Braeburn, Pa. Plans have been made for extensive development of the property by the additional equipment of a 6-ton electric furnace, thus making available two furnaces of this capacity. The increasing needs of the Standard Roller Bearing Co., Philadelphia, and the requirements of the Marlin Arms factory, New Haven, Conn., which are now owned by the Marlin-Rockwell Corp., have resulted in providing this source of steel supply. The Braeburn company has long specialized on high-speed tool and electric steels, which will continue to be manufactured under the new ownership.

Sell Wharton Steel Bonds

Chandler & Co., Inc., New York, are offering $1,200,000 worth of Wharton Steel Co.'s 5-year, convertible, first mortgage, 6 per cent bonds at 91½ and interest, to yield 8.10 per cent. The bonds are convertible at par into common stock at the holder's option at any time after two years. The authorized issue is $3,000,000 and the remainder of the unissued bonds have been reserved to refund the $1,200,000 worth of 2-year, 6 per cent notes due Dec. 28, 1919, and $600,000 is reserved for extensions and betterments.

The Wharton Steel Co. has $3,000,000 worth of capital stock outstanding. It owns $500,000 worth of stock and $350,000 worth of first mortgage bonds of the Wharton & Northern railroad company, operating 23½ miles of road. Net earnings of the railroad in 1917 amounted to 12 per cent on its capital stock after the payment of all charges.

The sales of the Wharton Steel Co. for the period from Feb. 10, 1917, to Dec. 31, 1917, amounted to $4,215,027, and the net profits amounted to $386,784. The net income applicable for interest charges was at the annual rate of six and three quarter times the interest requirements on the new note issue.

Financial Crop Ends

For the year ended Dec. 31, 1917, the Atlantic & Pacific Steamship Co., New York, reports net profits of $3,196,415. In the previous year, the company profits totalled $2,458,204.

* * *

According to an announcement from the treasury department at Washington the entente allies, excluding Russia and including only those British dominions which are self-governing, and only the United States proper, have 11,000,000 square miles of territory, 303,000,000 peoples, $495,000,000,000 of national wealth; total assets. On other hand, central powers have 1,250,000 square miles of territory, 147,000,000 people, $134,000,000,000 of national wealth and owe $37,000,000,000 or 28 per cent of their national wealth.

* * *

The Harris Trust & Savings bank, New York, is offering about $800,000 (£163,000) of the 6 per cent treasury bonds of Argentina, due May 15, 1920, at 96¼, to net 8¼ per cent. These bonds were originally issued in pound sterling form in London in the early part of 1915, being part of £5,000,000 placed there at that time. This £15,000,000 in turn was one-half of a total issue of about $50,000,000, $25,000,000 being placed in the United States by a representative syndicate of New York, Philadelphia, Pittsburgh and Chicago investment banking concerns.

Phenol to Japan

Export License Granted. Benzol and Ammonia Are Strong

New York, July 20.—A heavy business has been transacted in phenol during the past week, including a number of unusually large sales for spot shipment. In fact, most of the week's transactions involved spot and nearby shipment. An unusual feature of the week was the granting of two licenses for exporting large quantities of this product to Japan. Although the tone continues strong, prices are easier and the market on spot phenol now may be quoted at 44 to 47 cents per pound at producers' plants.

In solvent naphtha, the situation continues to be dominated by the expectation that large government orders are to be closed without further delay. In view of the business to be placed by the government, producers are unable to account on any appreciable production for other than government consumers, and hence they are refusing to take on any considerable business at this time.

Applications now are going forward to the war industries board for toluol to be delivered to commercial consumers during August. The war industries board cut down the July supplies to all consumers, and hence the latter are all the more eager to get their full requirements for August.

Pure benzol continues to be quoted at 25 to 30 cents per gallon at producers' plants and sales are being made at these figures, although it is understood that some business also is being done at lower. The tone of the market from a statistical standpoint is strong.

Coke Oven By-Products

Spot

Per Gallon at Producers Plant	
Pure benzol	$0.25 to .30
Toluol (on sales sanctioned by government) (tank cars)	1.50
Toluol (on sales sanctioned by government) drums	1.55
Toluol (for government)	1.50
Solvent naphtha	.20 to .25
Per Pound at Producers Plant	
Phenol	$0.44 to .47
Naphthalin (nominal)	.10 to .12
Per 100 Pounds at Seaboard	
Sulphate of ammonia (nom.)	$5.65 to 5.75

Contract

Pure benzol	nominal
Toluol	no market
Solvent naphtha	$0.18 to .22
Per Pound at Producers Plant	
Phenol	$0.44 to .47
Per 100 Pounds at Seaboard	
Sulphate of ammonia (for commercial use)	no market
Sulphate of ammonia (for government)	$4.50

Variety Marks Recent Tool Inquiry

Equipment for Ordnance Plants Takes Precedence in Many Districts—Large Preliminary List for Neville Island May Never Reach Dealers—Plants May be Commandeered to Produce Tools Required

PRELIMINARY lists of machine tools for the Neville island shell and ordnance plant of the United States Steel Corp. have been made up. These aggregate between $15,000,000 and $16,000,000. Gun boring and shell turning lathes, as well as all other kinds of machine shop equipment are included. Rumor has it, however, that instead of depending upon the available sources of supply and the open market, the government will commandeer two or more machine tool building shops and in them produce this giant plant's requirements. In any event, full production in the big gun plant is not anticipated before the end of two years.

Other gun and shell plant inquiry and buying is voluminous. Equipment for its new gun plant is being purchased by the American Radiator Co., Buffalo. The Wisconsin Gun Co., Milwaukee is expected to want machinery soon for its second gun plant. The Symington-Chicago Corp. is issuing orders for its requirements although the bulk of this business likely will be placed in the east. Munition orders placed with smaller plants in the Middle West have created considerable miscellaneous demand. The gun plant of the Studebaker Corp., at South Bend, Ind., is a heavy buyer.

Some equipment has been purchased by the Maxwell Motor Corp., Detroit. It recently received a contract for 12-inch shells and is in the market for more equipment. The Toledo Screw Products Co., Toledo, O., which recently received a contract for 1,000,000 one-pound shells, is understood to be buying machinery. Shell contracts, mostly for 3-inch projectiles, placed by the United States in Canada have caused several companies to issue lists of their machinery requirements.

Due to its proposed plan to produce its own hoods, fenders, radiators, mud pans, etc., the Kelly-Springfield Motor Truck Co., wants seven or more new tools. Another inquiry of interest to Cleveland dealers, comes from the Timken Roller Bearing Co., Canton, O., for about 100 new or used grinding machines. Many automobile companies in Michigan and Indina have been in the market and several have purchased 24-inch lathes.

Crane inquiry as well as contracting maintains the pace set in recent weeks. The entire six months output, considerably in excess of 1000 cranes, of the locomotive crane builders will be taken by the government in the six months beginning Nov. 1, 1918. This business will be allocated by the crane section of the war industries board. The Iroquois Iron Co., and the Barber Ashpalt Co., of Buffalo, each have issued a list of about 16 cranes. Many of the shipbuilding companies want cranes at the present time, including the Chester Shipbuilding Co., the Federal Shipbuilding Co., the New York Shipbuilding Co., and the Bethlehem Shipbuilding Corp.

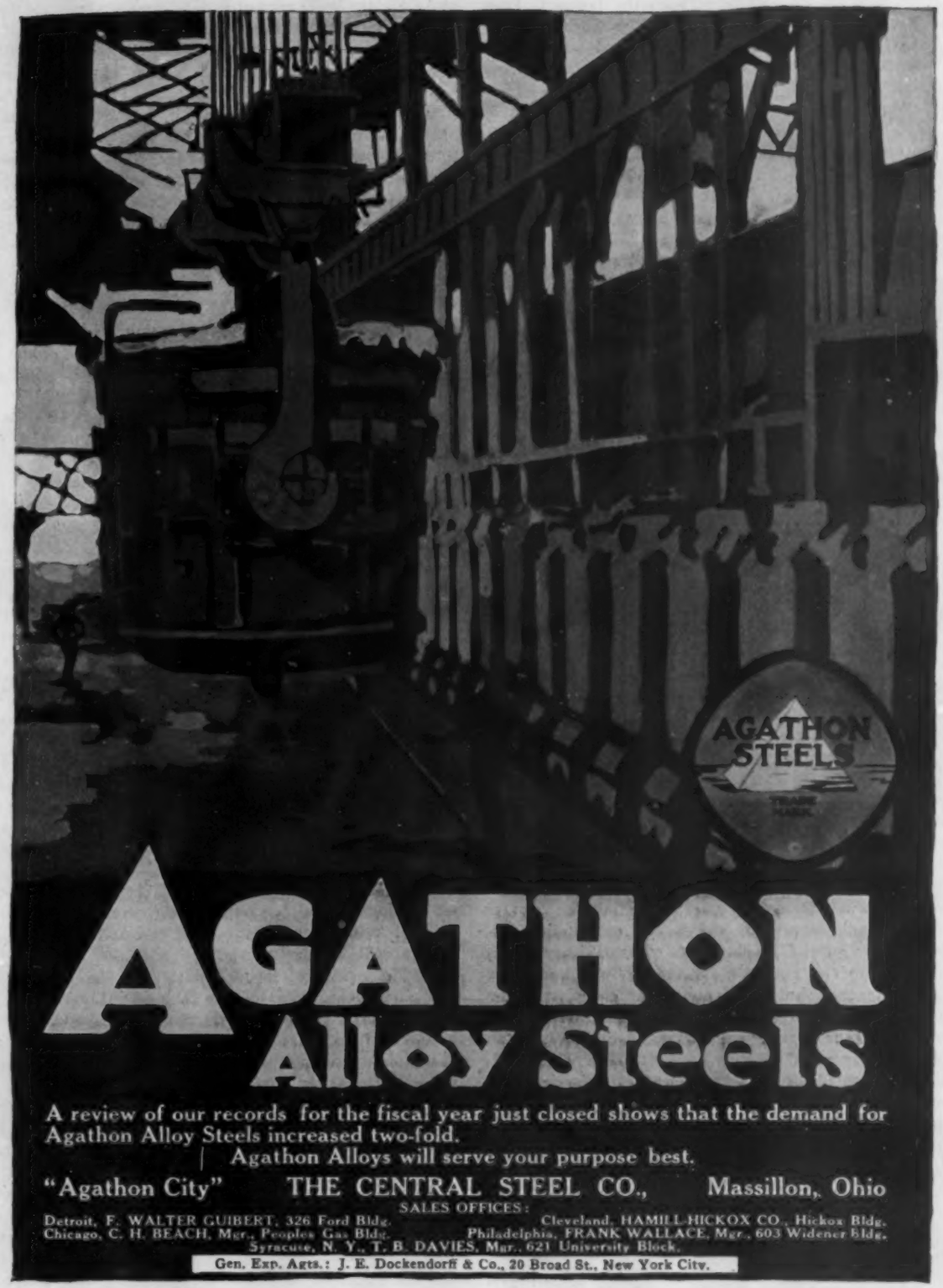
War Industries Board to Allocate Locomotive Cranes

LISTS of machine tools needed for the proposed ordnance and shell plant of the United States Steel Corp., to be located on Neville island, near Pittsburgh, have been made up. These lists include many hundreds of machines, including the largest sizes of gun boring lathes, lathes for turning shells of various sizes and all kinds of machine shop equipment. The estimated cost of the machines so listed totals about $15,000,000 to $16,000,000. So far as known, no tools have yet been purchased against this list. The project is of such magnitude that, in view of present conditions in the machine tool industry, it is believed that it will be nearly two years before production of ordnance and shells will start on a large scale, even provided an immediate start is made.

Production of machine tools is limited by the supply of labor. Most plants are running only single shifts, despite the urgent need for machines for war work, owing to the heavy loss of skilled labor in the draft. The government has obtained a large number of machinists from among those drafted; these have received further training in their particular field and have been placed in various arsenals or diverted to the ordnance base in France. Export business to France continues heavy, while demand from Italy is good. England is buying but little at present. Whereas, a year or so ago, machine tool builders were giving some thought to the after war reconstruction needs of the allies, the press of war business has been such that little thought is being given to these requirements now.

The Wright-Martin Aircraft Co. which recently placed orders for 600 machines for its plants at Long Island City, N. Y., and at New Brunswick, N. J., has taken over the plant of the Wasson Piston Ring Co., New Brunswick. The Wasson company, in turn, will occupy the former plant of the Bosch Magneto Co., at Plainfield, N. J., which the alien property custodian had sold to the Wright-Martin Co. The American Radiator Co. has been buying machine tools for its gun plant at Buffalo, while other companies having gun contracts are issuing additional inquiries from time to time.

The Iroquois Iron Co., Buffalo, which is understood to have received a contract for making Scotch marine boilers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SALES OFFICES:
Detroit, F. WALTER GUIBERT, 326 Ford Bldg.
Cleveland, HAMILL-HICKOX CO., Hickox Bldg.
Chicago, C. H. BEACH, Mgr., Peoples Gas Bldg.
Philadelphia, FRANK WALLACE, Mgr., 603 Widener Bldg.
Syracuse, N. Y., T. B. DAVIES, Mgr., 621 University Block.
Gen. Exp. Agts.: J. E. Dockendorff & Co., 20 Broad St., New York City.

for the Emergency Fleet corporation, has issued an inquiry for cranes, as follows: One 100-ton bridge crane, with one 50-ton hoist; one 50-ton with an additional 5-ton hoist; two 35-ton cranes, each with 5-ton auxiliary hoist; two 25-ton cranes; ten 15-ton cranes; all of 7-foot span. The Barber Asphalt Co., affiliated with the Iroquois Iron Co., has issued a similar inquiry, while the Chester Shipbuilding Co., Chester, Pa., also has issued an inquiry closely resembling these other two. The Federal Shipbuilding Co. is understood to have bought two electric traveling cranes from the Milwaukee Electric Crane & Mfg. Co. The Milwaukee company also has received an order for one 10-ton electric crane from the Mead-Morrison Co., East Boston, Mass. The New York Shipbuilding Co., New York, is about to close for six double trolley gantry cranes for its new plant at Gloucester, N. J. The American Car & Foundry Co.'s inquiry for six 5-ton cranes still is pending. The Pennsylvania railroad is in the market for two 200-ton double cranes.

It is reported the army and navy departments and the railroad administration are estimating their entire locomotive crane requirements for the year beginning July 1. They will submit these estimates to the crane section of the war industries board, which will arrange all such purchases. Orders will be allocated according to builders' capacity, instead of awarded by the system of competitive bidding. Last year, the requirements of the navy only were estimated. Thus, the ten 15-ton locomotive cranes needed for the Bethlehem Shipbuilding Corp.'s Alameda, Cal. plant, are being awarded by the war industries board.

No Vacation Lull in Chicago

STAGNATION in the machine tool market incident to mid-vacation time is entirely absent in Chicago. An exceptionally heavy demand fostered by the entrance of new munitions contracts which are finding their way into smaller shops has brought brisk buying of machine tools. Coupled with this business comes the urge of the ordnance requirements which is directed at firms already engaged in the production of war materials. Several successful firms have been requested to double their facilities, and this is bringing an increasing inquiry for equipment. The manufacture of certain larger sizes of guns is receiving particular attention at this time. Railway buying on lists extant is reported. The New York Central railroad has placed about 50 per cent of its requirements. The Symington Chicago Corp. has been represented by inquiry in the market during the past week, but the greater bulk of the requirements for the new plant under construction will be placed in the east. The Chicago plant will be similar to the one at Rochester, N. Y., and some of the machines will be manufactured by the Symington company in its own shops. The Western Electric Co. is constructing four factory and warehouse buildings on Forty-eighth avenue and Twenty-second street. The buildings will approach $1,000,000 in cost, and are of reinforced concrete and steel construction. Deliveries continue slow, and shipments from eastern points are proving most unsatisfactory. One milling machine ordered through a Chicago dealer from a Cincinnati manufacturer was 48 days in transit by local freight. Express shipments are equally unsatisfactory and are limited to 500-pounds weight. Local dealers are contemplating the pooling of shipments to admit of making carload lots from eastern shipping points. Used tool demand is voluminous, especially for heavy equipment. The General Motors Corp., will erect a new foundry to produce automobile castings at Saginaw, Mich., to cost $1,100,000. The Saginaw Malleable Iron Co., of the same city will erect a new foundry building and a power house to cost $125,000. The Grip Nut Co., South Whitley, Ind., will rebuild its factory, recently destroyed by fire. The Hercules Steel Casting Co., Milwaukee, is building a new foundry. The Studebaker Corp., South Bend, Ind., recently obtained building permits, which call for the expenditure of $270,000. This company will manufacture guns for the government. Government demands for additional tin plate will bring about the addition of 24 tin mills to the Gary, Ind., plant of the American Sheet & Tin Plate Co., a subsidiary of the United States Steel Corp. These will cost approximately $10,000,000. Plans are now being made for the erection of a large roundhouse at the Lake Erie & Western railroad shops at Peru, Ind. The Janesville Machine Co., Janesville, Wis., proposes to build a tractor plant. A duplicate of the present plant of the Wisconsin Gun Co., Milwaukee, has been started. The new ordnance shop will be 130 x 175 feet. When completed the company's daily output of 3 3-inch field guns will be doubled.

Demand Is Lively In Cleveland

OF chief interest in the Cleveland machinery market this week, is the inquiry from the Timken Roller Bearing Co., Canton, O., for almost 100 grinding machines. This list includes the following Brown & Sharpe grinding machines, in addition to 33 No. 6 Modern grinding machines: 33 No. 1, 13 No. 12, eight No. 22, and seven No. 14 with 4-inch wheel face, 18 inches in diameter. Either new or used machinery is desired. Because the Kelly-Springfield Motor Truck Co., Springfield, O., contemplates the opening of a new sheet metal department to produce its own hoods, radiators, mud pans, fenders, etc., it is trying to locate the following new equipment: One power arch Gray press with 26 x 30-inch bed; one power punch with ⅜-inch hole capacity; one power gap shear to cut or square 62 inches for No. 16 gage steel; one No. O beading machine; one 6-foot giant groover; one 30-inch adjustable bar folder; one spot welding machine with a throat capacity of from 24 to 30 inches. Among the Cleveland concerns who have come into the market are the Semet-Solvay Co., which desires 16-inch lathes and larger; the International Steel Tie Co., 16702 Waterloo road, N.E., which wants equipment for its new machine shop; the Teagle Co., which is seeking broaching machines. The American Shipbuilding Co., continues to enter the market periodically and recently purchased some equipment for its subsidiary the Superior Shipbuilding Co., Superior, Wis., It also is piecing out its equipment at Lorain, Detroit, etc. The New York Central railroad has practically located its requirements but is still looking for about a dozen machines on its large list. Several large boring mills have been sold in the past week, one by the Duplex Machinery Co., for approximately $10,000. This company likewise shipped a carload of automatics last Saturday. Several Michigan automobile companies have sent inquiries for lathes to Cleveland. It is understood that the Maxwell Motor Corp., Detroit, wants equipment with which to complete the contract it received recently for 12-inch shells. It has purchased several 12-inch lathes. The Chevrolet Motor Co., Flint, Mich.; the Olds Motor Works, Lansing, Mich.; the Cadillac Motor Car Co., Detroit, and the Dodge Mfg. Co., Mishawaka, Ind., are all in the market for equipment, having purchased 24-inch lathes recently. The Lake Erie & Western railroad, which has had an appropriation of $500,000 approved by the railroad administration, will build locomotive shops at Tipton, Ind. This plant will replace the Lima, O., shops which burned down recently. The Pilliod Co., Swanton, O., manufacturer of locomotive valve gears, contemplates the early erection of an addition to its plant. It is understood to have much government business. The Sandusky Tire &

WAR SAVINGS STAMPS

Say you saw it in THE IRON TRADE REVIEW

Rubber Co., Sandusky, O., will soon be in the market for equipment for its new $1,000,000 plant. The Wright-Martin Aircraft Co., has wired several Cleveland dealers in an effort to place orders for some of its equipment to increase the output of Hispano-Suiza motors at both the Long Island City, N. Y., and New Brunswick, N. J., plants.

Crane Business Is Heavy

Crane builders in the northern Ohio territory continue to operate at 100 per cent capacity. Builders of locomotive cranes contemplate several busy months. They have assurances that the government will take their entire output for six or seven months. This means between 160 and 175 cranes monthly or in excess of 1000 locomotive cranes of all types and sizes between Nov. 1, 1918 and June 1, 1919. It is understood that these will be for use only in positive government work or what is known as Class A1 priority. A company operating on indirect government work will have difficulty to obtaining this equipment unless crane building capacities are increased. The Brown Hoisting Machinery Co., Cleveland, recently obtained a contract from the Diamond Alkali Co., Fairport, O., for one bridge tramway locomotive crane, 316 feet overall, with five to six-ton bucket for handling coal and limestone. The United Alloy Steel Corp., Canton, O., is expected to come into the market at an early date for coal crushing machinery and other equipment for its new gas producing plant.

Will Machine Tool Plants Be Commandeered?

CURRENT in the Pittsburgh market, is the rumor that one or two machine tool plants in this territory will be commandeered by the government to produce the machine tools needed at the Neville island ordnance plant of the United States Steel Corp. Pending a settlement as to what course of procedure will be followed, tentative inquiry has been made and lists of several hundred machines have been made up but not issued. No purchases have been made so far as it is possible to learn, because of difficulties encountered in locating equipment. Considerable progress is being made in getting material for the construction of the plant. To expedite its erection, the receivers of the Pittsburgh Railways Co. will establish a fast freight line from the island to the East Pittsburgh works of the Westinghouse Electric & Mfg. Co., for the transportation of machinery, such as engine parts, generators, etc. The distance is about 17 miles. Flat cars will be used. Demand coming to sellers in the Pittsburgh district for machinery and machine tools is fairly brisk, especially for equipment for turning out ordnance work. The Pennsylvania railroad contemplates building a large roundhouse, several machine shops and auxiliary buildings at Fairhope, O., east of Canton.

United States Buys in Canada

SHELL contracts from the United States government have been taken by the Manitoba Bridge & Iron Works, the Dominion Bridge Co., and the Vulcan Iron Works. Each calls for approximately 80,000 3-inch shells, to cost about $500,000. Since this necessitates the buying of machinery, work cannot be started upon the contracts for two or three months. Other sizable contracts have been closed by Canadian manufacturers for shells of various diameters, fuse parts and adapters. The material is being allotted by the United States war industries board and the material is being supplied by the Canadian government.

New Construction and Equipment

Concise and Timely Business Building Opportunities from the Field of Industry

Among New England Factories

KEENE, N. H.—The Morgan Mfg. Co. will build a 50 x 60-foot temporary shop.

PORTSMOUTH, N. H.—An appropriation has been granted for a brick, steel, concrete and hollow tile addition to the machine shop to cost $200,000 and an addition to the foundry to cost $130,000 at the U. S. navy yard.

ATHOL, MASS.—The Athol Mfg. Co. has let the contract for a corrugated iron, 18 x 60-foot storehouse and a 26 x 60-foot coal pocket.

BOSTON.—Merriman Bros. have let the contract for a galvanized iron, 1-story, 22 x 66-foot foundry.

CHELSEA, MASS.—The Winnisimmet Ship Yard has been incorporated as a ship builder with $24,800 capital by W. R. Green, Wilmot R. Evans and M. D. Green, Everett, Mass.

LAWRENCE, MASS.—The McCabe Mfg. Co. has been incorporated to make machinery with $50,000 capital by Fred H. McCabe, Hugh McCabe and L. M. McCabe.

LEOMINSTER, MASS.—The Independent Lock & Key Mfg. Co. has been incorporated with $75,000 capital by Samuel Freyman, Morris Falk and B. Falk.

LOWELL, MASS. — The Merrimac Mfg. Co. will build a brick, 1-story, 66 x 78-foot addition to cost $20,000.

LOWELL, MASS.—Work will be started shortly by the Merrimack Mfg. Co. on a $20,000 addition, 66 x 70 feet.

LOWELL, MASS.—The Lowell Construction Co. has been incorporated with $60,000 capital by F. F. Meloy, John H. Johnson and E. W. Douglas.

SPRINGFIELD, MASS.—Bids have been rejected and plans are now being revised for a 3-story factory building for the H. L. Handy Co.

SPRINGFIELD, MASS. — The Joseph Freedman Co. has been incorporated to manufacture metals of all kinds, machinery, etc., with $60,000 capital by Joseph Freedman, Frederick Rabinovitz and William Freedman.

STOUGHTON, MASS. — The Perfection Cooler Co. is receiving bids on the construction of a 3-story, 58 x 108-foot factory building.

WINCHENDON, MASS.—The Wye Knitting Mills has been incorporated with $150,000 capital by T. E. Wye, Silas A. Greenwood and R. B. Greenwood.

WORCESTER, MASS. — The Rockwood Sprinkler Co. has let the contract for a steel, 1-story, 37 x 226½-foot addition.

PROVIDENCE, R. I.—The Banner Needle Co. has been incorporated with $200,000 capital by Arthur M. Allen, Frederick W. Tillinghast and Chauncey E. Wheeler.

PROVIDENCE, R. I.—The J. A. Lind Co. has been incorporated to do a general machinery business with $100,000 capital by Arthur M. Allen, Frederick W. Tillinghast

OHIO STEEL CASTINGS

If your work is such that you must have steel castings

True to Pattern
and
Absolutely Clean

and you would be interested in procuring castings with which you would have a

Minimum Machine Shop Loss,
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The Ohio Steel Foundry Co.
Springfield, Ohio Lima, Ohio Bucyrus, Ohio

PLUS QUALITY HH SERVICE

and Chauncey E. Wheeler.

WOONSOCKET, R. I.—The Star Carbonizing Co. has let the contract for a 1-story, 40 x 104-foot storage building.

BRIDGEPORT, CONN.—Harvey & Lewis have let the contract for a brick and steel, 4-story, 22 x 80-foot loft building.

BRIDGEPORT, CONN.—The Locomobile Co. has let the contract for a 32 x 80-foot addition.

BRIDGEPORT, CONN.—The Liberty Ordnance Co. has let the contract for a brick, 30 x 60-foot addition.

EAST HADDAM, CONN.—The Abenaque Machine Works has been incorporated with $100,000 capital by Colgate Gilbert, Colgate, N. H., Frederick Angellock, Richmond Hill, N. Y., and Charles A. Voetsch.

HARTFORD, CONN. — Bids have closed for a 2-story, 40 x 80-foot mill construction for the Colt's Patent Fire Arms Mfg. Co.

NEW HAVEN, CONN.—The Marlin-Rockwell Corp. has let the contract for a concrete, 1-story, 23 x 25-foot transformer house.

NEW HAVEN, CONN.—Bids have closed for a concrete, 5-story, 100 x 100-foot laboratory building for Yale university.

NEW LONDON, CONN.—Bids close July 22 for a fuel and diesel oil storage building to cost $60,000 for the government at the submarine base.

MYSTIC, CONN.—The Connecticut Shipping Corp. has been incorporated to build ships with $200,000 capital by Carl Vretman, Savannah, Ga.; M. L. Gilbert, New York, and Louis Lubchansky, New London, Conn.

STAMFORD, CONN.—Plans for a $40,000 plant addition for the Mainus Mfg. Co. are being drawn by Lockwood, Green & Co., 101 Park avenue, New York.

WATERBURY, CONN.—The Chase Rolling Mills Co. will build a brick, 1-story, 40 x 102-foot oil house.

WATERBURY, CONN. — The American Brass Co. is building a 1-story, 50 x 165-foot storage building.

Along the Middle Atlantic Seaboard

BROOKLYN, N. Y. — A $15,000 storehouse 118 x 137 feet will be erected by the League Storage & Warehouse Co.

BUFFALO.—The Barcalo Mfg. Co. will build a 1-story addition to cost $6000.

BUFFALO.—Fire at the Donner Steel Co.'s plant did $3000 damage.

BUFFALO.—The Buffalo Structural Steel Co. will build an addition.

BUFFALO.—The Howard Iron Works let contract for a 1-story addition to cost $6000.

BUFFALO.—The Cousins & Son Boiler Works has had plans prepared for a 1-story boiler shop 85 x 120 feet.

BUFFALO. — The General Electric Co., Schenectady, N. Y., will build a 3-story branch factory 80 x 295 feet.

CHATEAUGAY, N. Y.—Thompson & Binger Inc., 280 Madison avenue, New York, will erect a paper mill, 60 x 300 feet, for the High Falls Pulp & Paper Co.

GARDENVILLE JUNCTION, N. Y.—The Pennsylvania railroad has awarded a contract for the construction of a $75,000 engine house here, to the Wilson & English Construction Company.

LONG ISLAND CITY, L. I., N. Y.—The Interstate Land Holding Co., Boston, will build a $50,000 factory here.

LONG ISLAND CITY, L. I., N. Y.—A $60,000 silk mill, three stories, 73 x 212 feet, will be erected by Aaron Cohen, 212 Fifth avenue, New York.

NEW YORK.—A ship repair plant will be erected by A. J. Nugent.

NEW YORK.—The Greenpoint Fire Brick Co. has purchased a 75 x 180-foot site for the erection of a factory building.

ROCHESTER, N. Y.—Bids are being taken by Robert S. Byars for the construction of an addition, 100 x 170 feet, to the Bridgeford Machine & Tool Co.

SCHENECTADY, N. Y.—Du Bois Bennett has the general contract for constructing a 1-story, 120 x 175-foot boiler shop addition at the American Locomotive Co.

SYRACUSE, N. Y.—N. J. LaVaunte is taking bids on a plant for E. L. Wood. Two buildings will be erected, one three stories, 46 x 66 feet, and the other, two stories, 22 x 86 feet.

ALLENTOWN, PA.—H. Sofransey Co. will build a 2-story addition, 40 x 185 feet, to cost $40,000.

ALLENTOWN, PA. — Bethlehem Motors Corp. has let the contract for a $30,000 warehouse, 80 x 200 feet.

Business Changes

The Ever Tight Piston Ring Co. has moved its offices from 1432 Chestnut street, St. Louis, to 1601 Kindsland avenue.

The Brown-McLaren Mfg. Co., Detroit, manufacturer of hollow mills, counter bores and reamers, moved recently to 1523 West Fort street.

The Phoenix Iron Co. is moving its main offices from 410 Walnut street, Philadelphia, where it has been located for many years. Its new quarters will be the Franklin Trust building, 22 South Fifteenth street, Philadelphia. The Phoenix Bridge Co. also will have its headquarters in the latter building.

The Shuler Axle Mfg. Co., Detroit, will move its entire plant to Louisville, Ky., where the company has leased a factory building and is now installing equipment. The installation will cover a small drop forge shop and a complete machine shop.

The Duplex Machinery Co., Leader-News building, Cleveland, due to its rapid growth under the management of G. J. Hawkey has found it necessary to move into larger quarters, on the fifth floor of the Leader-News building, moving from room 531 to 528.

The Pressed Metal Radiator Co., manufacturer of steel tubing, has moved its offices from 2516 to 1643-44 Oliver building, Pittsburg.

The Phoenix Iron Co., 410 Walnut street, Philadelphia, on July 22, moved into its new offices at 22 South Fifteenth street, in the Franklin Trust building, that city.

The Wilputte Coke Oven Corp., has moved its offices to the Winfield building, 469 Fifth avenue, New York City.

The Atlantic Mfg. Co. has moved from Bridgeport, Conn., into its new factory on New Haven avenue, Milford Conn.

ALTOONA, PA.—The MacDanahan Stone Foundry & Machine Co. will rebuild its plant at a cost of $15,000.

BLAIRSVILLE, PA. — The Pennsylvania railroad has let a contract for a new turntable and additions to its shops here.

BRADFORD, PA.—Bovard & Seyfang, this city, let a contract to the Pittsburgh Bridge & Iron Co. for a foundry, 90 x 100 feet, to cost $90,000.

CHESTER, PA.—The Sun Shipbuilding Co. contemplates the erection of a large marine boiler shop.

CONNELLSVILLE, PA. — The McCarrin Foundry Co. let the contract for a $15,000 addition.

GREENSBURG, PA.—The Kelley & Jones Co. will build a 1-story addition, 70 x 550 feet.

HILLSVILLE, PA. — The Carbon Limestone Co. will make extensive improvements to its plant.

MILTON, PA.—The Milton Mfg. Co. will rebuild its forge shop here.

PHILADELPHIA.—A $200,000 packing box shop will be erected at the Frankford arsenal.

PHILADELPHIA. — Contractors are now estimating on plans for a coal and ash-handling plant for the power house of the aircraft factory in the Philadelphia navy yard.

PHILADELPHIA. — The William Brown Co. has acquired a plant here consisting of a 3-story brick building and a 1-story engine house.

PHILADELPHIA.—The William Steele & Sons Co. is planning a 1-story addition, 140 x 300 feet, to the property of David Lupton's Sons.

PITTCAIRN, PA.—W. G. Coughlin, Philadelphia, is drawing plans for an engine house to be erected here.

PITTSBURGH. — The Baltimore & Ohio railroad has had plans prepared for a 4-story locomotive repair and freight building, to cost $374,000.

PUNXSUTAWNAY, PA.—The Mahoning Foundry & Machine Co. has started extensive improvements to its plant here.

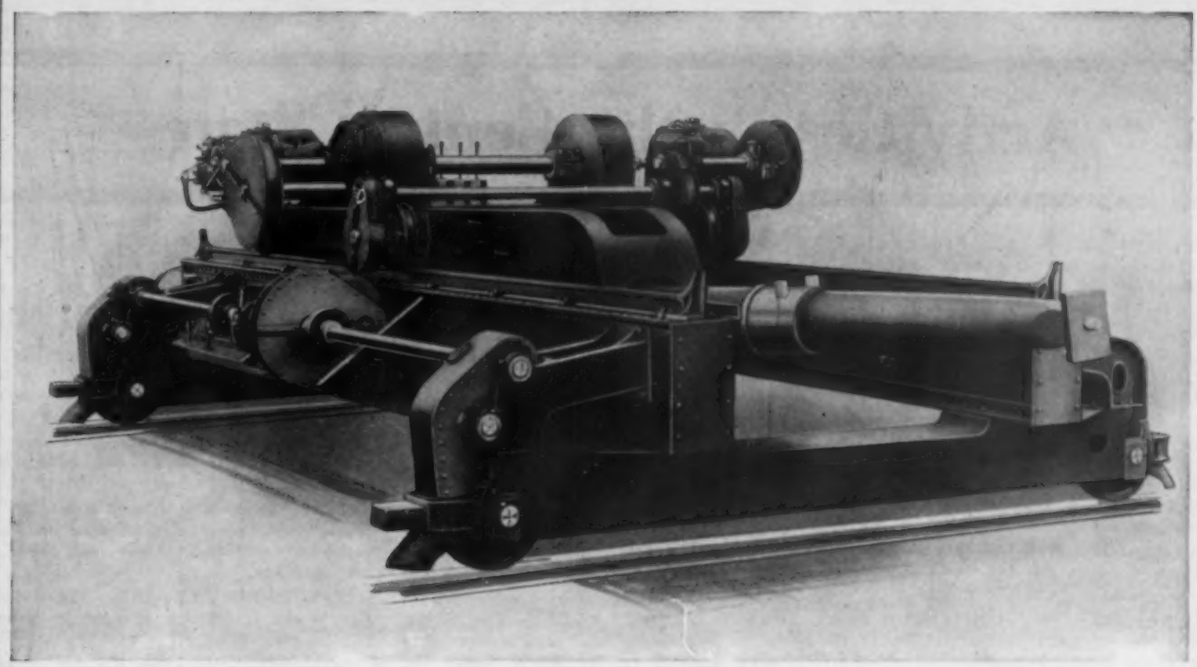
UNIONTOWN, PA.—The Dudley Electric & Machine Co. will purchase equipment for its plant here.

WARREN, PA.—The Pennsylvania Furnace & Stove Co. will purchase more equipment for its plant here shortly.

ASBURY PARK, N. J.—McKim, Mead & White, New York, have prepared plans for an auditorium to cost $500,000.

W-S-M

STEEL PLANT EQUIPMENT
COKE OVEN MACHINERY
GAS PRODUCERS
ORE AND COAL HANDLING MACHINERY
SPECIAL CRANES
MINING MACHINERY
HYDRAULIC TURBINES



Charging Machines

The Wellman-Seaver-Morgan Company originated, first built, developed, and for many years was the sole constructor of mechanical chargers for open hearth furnaces.

The W-S-M Low Type Charger is pictured above. Some conditions indicate the use of the High Type Charger or the Crane Type.

We are prepared to build a special machine for your particular requirements.

Bulletin A 7, "W-S-M Charging Machines and Manipulators," will be sent on request.

THE WELLMAN-SEAVER-MORGAN CO.
CLEVELAND, OHIO, U.S.A.

Say you saw it in THE IRON TRADE REVIEW

BLOOMFIELD, N. J.—The Sprague Electric Co. will build a $5000 machine shop extension.

FREEHOLD, N. J.—The board of freeholders has received bids for the construction of a tuberculosis hospital and a power house, electric lighting plant, and sewage disposal plant to cost $61,648.

HOBOKEN, N. J.—The government proposes to erect a $12,000,000 freight terminal here.

NEWARK, N. J.—The Public Service Railway Co. will erect a car repair shop.

NEWARK, N. J.—The Austin Co., Cleveland, will build a 1-story, 75 x 180-foot addition to the Essex foundry.

NEWARK, N. J.—John C. Eisele, 205 Frelinghuysen avenue, will erect a 2-story brick auto service station, to cost $28,241.

NEWARK, N. J.—The Heller & Mertz Co. will erect a 2-story steel and concrete boiler room, to cost $23,600.

NEWARK, N. J.—The Copely Mfg. Co. will erect a 1-story brick workshop, to cost $5000.

NEWARK, N. J. — Barrett & Co. will erect a 1-story brick boiler room, to cost $5762.

NEWARK, N. J.—The Union Smelting & Refining Co. will erect a factory to cost $18,000.

NEWARK, N. J.—Hay Foundry & Iron Works will erect a 1-story steel, brick and concrete factory building, 41 x 341 feet, to cost $20,000.

NEWARK, N. J.—The Star Fan & Motor Works is the lessee of a $31,000 factory building to be erected by the United Advertising Corp.

NEWARK, N. J.—The Union Tool Co. has been incorporated with $20,000 capital to manufacture tools, etc., by Carl Bachman and Gustav Schmidt, of Newark, and Santo P. Matacalla, of New York.

TRENTON, N. J.—Architect Harry A. Hill, 40 East State street, has plans drawn for 12-room school house for Pennsgrove, N. J., to cost $60,000.

BALTIMORE, MD.—A $250,000 forge shop, 245 x 330 feet, will be erected by Morrow Bros. for the Bartlett-Hayward Co.

Activities in the Central States

APPLETON, WIS.—Although its new factory building is only just being completed, the Reliance Motor Truck Co. is contemplating the erection of another shop, 100 x 300 feet.

EAU CLAIRE, WIS.—The W. H. Hobbs Supply Co. is building a 5-story plant, 40 x 125 feet, costing $50,000.

EAU CLAIRE, WIS.—The United States Switch Co., manufacturer of automatic signals and switches, will build an electric steel foundry, 100 x 100 feet, and machine shop, 100 x 200 feet. J. W. Hubbard is president and general manager.

MANITOWOC, WIS. — The Wisconsin Aluminum Castings Co. will build a foundry addition.

MILWAUKEE.—The General Motors Co., Detroit, has purchased 125 acres adjacent to the city, for factory purposes.

MILWAUKEE. — The Landine Gear Co. contemplates the construction of a plant to cost $40,000.

MILWAUKEE.—The Atlas Foundry Co. has bought a site in West Allis and will build a foundry to cost $50,000.

RIPON, WIS. — The Central Wisconsin Utilities Co. has been incorporated with a capital stock of $150,000 by E. J. B. Schubring, D. E. Longan and A. R. Peterson, all of Madison, Wis.

SUPERIOR, WIS.—The Enterprise Foundry Co., recently organized, will establish a gray iron and malleable foundry.

WEST ALLIS, WIS.—Plans for the power plant unit to be erected by the Universal Machinery Co. are being completed by Architects Val A. Siebert and Frank E. Gray, 86 Michigan street, and will be ready for bids shortly.

BATTLE CREEK, MICH.—The Rich Steel Products Co. has awarded a contract for a plant addition, 49 x 256 feet.

BAY CITY, MICH. — The Austin Co., Cleveland, has the contract for the erection of the first of several units for the World's Star Knitting Co. The building will be 60 x 200 feet.

CADILLAC, MICH. — The Acme Motor Truck Co. will build a 2-story factory building.

DETROIT.—The General Motors Co., W. C. Durant, president, will erect a plant on a 105-acre site at St. Louis, Mo.

DETROIT.—Contracts for foundry additions to the Hoskins Mfg. Co. have been let to Hazelton & Clark. A. B. Tilton is secretary.

DETROIT.—Contracts for plant additions aggregating $40,000 have been awarded by the Saxon Motor Car Co.

DETROIT.—The Central Forge Shop has let a contract for a new heat treating plant to Otto A. Wurm. Standish Backus is secretary.

DETROIT.—The American Car & Foundry Co. will erect three buildings to cost $37,000. They will be 60 x 300, 72 x 100 and 60 x 72 feet.

FLINT, MICH.—The Champion Ignition Co. will erect a factory unit, to cost $8000.

GRAND RAPIDS, MICH.—The Adolph Leitel Iron Works is enlarging its jobbing department.

GRAND RAPIDS, MICH. — The government is considering the construction of a $135,000 addition to the Grand Rapids Gas Works for the manufacture of toluol.

JACKSON, MICH. — The Walcott Lathe Co. will erect a steam heating plant.

LANSING, MICH. — The Olds Motor Works has awarded contracts for plant additions.

LAPEER, MICH. — The Lapeer Tractor-Truck Co. is installing machinery in its newly completed plant. W. H. Tucker is president.

MUSKEGON, MICH. — The Muskegon Boiler Works has been sold to the Brinen Lumber Co.

PONTIAC, MICH.—The Precision Castings Co. was damaged to the extent of $50,000 by fire. The plant will be rebuilt.

PONTIAC, MICH.—The Precision Castings Co., Fayetteville, N. Y., will rebuild its plant recently damaged by fire.

PORT HURON, MICH.—The Port Huron Foundation Co., A. R. Morrison, manager, will expend $800,000 on its shipbuilding plant.

SAGINAW, MICH.—The Saginaw Sheet Metal Works has a $700,000 contract for powder containers. New machinery will be installed.

SAGINAW, MICH. — The Stork Motor Works and Wolverine Machine Works have merged as the Stock Motor Co., with $75,000 capitalization to conduct a general machine and foundry business. F. W. Stork is one of the incorporators.

TECUMSEH, MICH.—The H. Brewer & Co. foundry will have its capacity doubled to handle government work. P. W. A. Fitzsimmons is president.

WAYNE, MICH.—The city has voted a bond issue of $25,000 for water works extensions.

WAYNE, MICH. — The Harroun Motors Corp. has completed the first of four new units to handle the company's shell manufacturing contracts with the government.

COLUMBIA CITY, IND.—A library will be erected, to cost $25,000, the building being the gift of S. J. Peabody.

GARY, IND.—The Illinois Steel Co. has appropriated funds for heat, light and water extensions, including a new gas holder, to cost $290,000.

JEFFERSONVILLE, IND.—The American Car Works is building a plant to manufacture wagon chains.

KOKOMO, IND.—The Kokomo Steel & Wire Co. will build a 1-story plant, 100 x 800 feet, to cost $150,000.

LAFAYETTE, IND.—With the centering of the offices of the Chicago, Indianapolis and Louisville railroad here it is reported a 6 story building will be erected.

PERU, IND.—The Lake Erie & Western railroad will erect a roundhouse to cost $30,000.

RAUB, IND.—The W. H. Haas Mfg. Co., capitalized at $50,000, has been chartered to manufacture machinery, by Clem Browne, W. H. Haas and Talbert McAlexander.

RICHMOND, IND. — The contract for construction of car shops for the Pennsylvania railroad has been awarded to Latham & Walters, Life building, Indianapolis.

TERRE HAUTE, IND. — The Ahlgren Light & Storage Battery Co., capitalized at $25,000, has been chartered to manufacture lighting systems and batteries by William T. Kincaid, H. C. Austin and R. C. Adams.

CINCINNATI.—Bausmith & Draine, architects, are drawing plans for a plant for the Central Frog & Switch Co.

LOUISVILLE, KY. — Contracts for the construction of a factory for the Ohio Falls Die & Finishing Co. were awarded to Sanford Vaugh, Paul Jones building, Louisville.

AURORA, ILL.—The Independent Pneumatic Tool Co. will construct a power plant to cost $15,000.

CHAMPAIGN, ILL.—The Illinois Central railroad has let a contract for round house and carpenter shop to cost $140,000.

Western and Intermountain Territory

FOLEY, MINN.—Plans are being prepared for a waterworks system, including a 60,000-gallon steel tank and a 1000-gallons-per-minute motor-driven pump. G. E. Rice is mayor.

RED LAKE FALLS, MINN.—The contract for constructing a state bridge was awarded to the Minneapolis Bridge Co., Minneapolis.

STOCKTON, MINN. — Bids are being taken by the Stockton Rolling Mill Co. for material and equipment for plant additions.

CEDAR FALLS, IOWA. — The Viking Pump Co. has awarded a contract for a $20,000 factory building.

COUNCIL BLUFFS, IOWA.—Contracts for railroad buildings for the Union Pacific to cost $200,000 have been let to the Lynch-Cannon Engineering Co., Salt Lake City.

DES MOINES, IOWA.—The Green Foundry & Furnace Works will build a four-story addition, to cost $75,000.

FORT DODGE, IOWA.—The Carter Iron & Steel Co. will erect a $200,000 plant. C. L. Carter is general manager.

JOPLIN, MO.—The Mushogee Lead & Zinc Co. will build a 100-ton concentrating mill.

MARSHALL, MO.—A bond issue of $80,000 for an electric light plant has been voted.

ST. LOUIS, MO.—The Moon Motor Car Co. will build a 4-story factory addition to cost $54,000.

WARRENSBURG, MO.—Bids are asked until July 23 on one 60-foot and one 70-foot span steel bridge. Clark J. Jacoby, Shurbert building, is engineer.

COLEMAN, TEX. — The city is having plans prepared for a waterworks system to cost $100,000.

GALVESTON, TEX.—The Brush Electric Co. will rebuild its power plant at a cost of $50,000.

MARSHALL, TEX.—The Texas & Pacific railroad will rebuild its burned shops. E. F. Mitchell is chief engineer.

WACO, TEX.—The Boone Tire & Rubber Co. is building a factory to cost $100,000.

DOUTHAT, OKLA.—The Century Mines Co. will build a concentrating plant for which equipment will be needed, costing $60,000.

MIAMI, OKLA.—The Aurora Mining Co. will build a 150-ton concentrating plant to cost $60,000.

OKLAHOMA CITY, OKLA.—The Midland Motor Car & Truck Co. plans to install machinery.

OKLAHOMA CITY, OKLA.—The Great Western Metal Co., recently organized, will purchase machinery to cost $10,000.

OKLAHOMA CITY, OKLA.—The Waxahatchie Mining Co. will build a 150-ton concentrating plant, costing $60,000. J. Hare is manager.

ONAPAW, OKLA.—The Miami Mining Co. will build a 400-ton concentrator to cost $250,000. J. P. McNaughton, Miami, is superintendent.

PEORIA, OKLA. — The Nebo Lead & Zinc Co. will build a concentrating plant to cost $60,000. R. C. Croslin is superintendent.

POTEAU, OKLA.—A bond issue of $95,000 for waterworks purposes, including a filtration plant has been voted.

TAR RIVER, OKLA.—The Maxine Mining Co., capitalized at $250,000, will build a concentrating plant costing $80,000. W. C Miller, Miami, is superintendent.

TULSA, OKLA. — Waterworks extensions are planned for Kendall at a cost of $393,000.

TULSA, OKLA. — The Tulsa Storage & Distributing Co. will build an addition to cost $65,000.

AUGUSTA, KAN.—The city plans a power plant to cost $75,000.

BADGER, KAN.—The Badger Mining & Development Co. will build a 150-ton concentrator. T. E. Forester, Joplin, Mo., is manager.

ELLIS, KAN. — Bonds for $30,000 have been voted to cover improvements on the municipal electric light plant.

GARNETT, KAN.—Plans are being prepared for a waterworks plant for which $65,000 worth of bonds has been sold.

BEATRICE, NEBR.—An election will be held soon on the question of issuing $100,000 in bonds for an electric light, heat and power plant.

New Business in Eastern Canada

PORT MOODY, B. C.—The dry kilns and lumber sheds of the Thurston Flavelle Lumber Co. were damaged by fire with a loss of $40,000. The company will rebuild.

VANCOUVER, B. C.—The Defiance Packing Co. has a permit for the erection of a packing plant to cost $50,000. The building will be 3-stories of heavy mill construction and will be equipped with the latest refrigerating machinery and equipment. A. H. Sherman is general manager.

BARRIE, ONT.—The Fisher Flour Mills, Ltd., is in the market for flour mill machinery.

CHATHAM, ONT.—The T. H. Taylor Co. is in the market for a 125 to 150 horsepower boiler 14, 16 or 18 foot, 6-foot diameter, 3½-inch flues.

GODERICH, ONT. — The National Shipbuilding Co. will build a boiler shop to cost about $40,000.

HAMILTON, ONT.—The Hamilton Brass Co. has a permit for the erection of a factory building to cost $25,000.

HAMILTON, ONT.—The Ford-Smith Machine Tool Co. has purchased a site and will commence at an early date to erect a plant to cost about $250,000.

KITCHENER, ONT.—John Forsyth, Ltd., has been incorporated to manufacture electrical machinery, etc., with $300,000 capital by John D. C. Forsyth, Edwin W. Clement, William P. Clement.

NEW HAMBURG, ONT. — The North-Light Motor Co. has been incorporated to manufacture gasoline or gas engines, motors, steam engines, boilers electrical motors, machinery, etc., with $50,000 capital stock by Charles O. Peters, Toronto, Ont.; Alexander H. Miller, Owen Hamilton and others, of Kitchener, Ont.

OTTAWA, ONT.—John A. Pearson will receive bids until July 30 for three water tanks, and two centrifugal pumps.

PEMBROKE, ONT.—The plant owned by the Thomas Pink Co., Ltd., was damaged by fire July 15.

PORT CREDIT, ONT.—A building of the St. Lawrence Starch Co. recently was damaged to the extent of $10,000 by fire.

SMITHS FALLS, ONT.—The Provincial Hydro Electric Power commission has recommended the purchase of four electric pumps

TILLSONBURG, ONT.—The Huntley Mfg. Co. has awarded the contract for the erection of a factory to A. E. Ponsford, St. Thomas, Ont., to cost $100,000.

TORONTO, ONT.—The factory of Sanderson, Pearcy & Co., was damaged by fire, July 15, with a loss of $125,000.

TORONTO, ONT.—The United Brass & Lead Co., Ltd., is in the market for a milling machine.

TORONTO, ONT. — The Massey-Harris Co. is contemplating the erection of a large storehouse. The company manufactures agricultural implements.

TORONTO, ONT.—The Dominion Bridge Co. has the contract for the building of an addition to the plant of the National Iron Corp. to cost $15,000.

TORONTO, ONT. — The Toronto Iron Works, Ltd., Royal Bank building, has awarded the contract to the Dominion Bridge Co., for the erection of a fabricating plant to cost $12,500.

TORONTO, ONT.—The Dominion Shipbuilding Co., Ltd., has been incorporated to build ships, vessels, etc., with $3,000,000 capital by J. M. Bullen, Norman S. Robertson, of Toronto.

TORONTO, ONT.—The Clyde Cars Co. has been incorporated to manufacture automobiles, cars, engines, motors, etc., with $50,000 capital stock, by John S. McLaughlin, John S. Innes, William P. Armstrong of Toronto.

Iron and Steel Prices

Corrected to Tuesday Noon

IRON ORE

Superior Ores, Per Ton, Lower Lake Ports	
Old range Bessemer, 55 iron	$6.40
Mesabi Bessemer, 55 iron	6.15
Old range non-Bess., 51½ iron	5.65
Mesabi non-Bess., 51½ iron	5.50

WAREHOUSE PRICES

Steel bars, Chicago	4.17c
Steel bars, Cleveland	4.07c
Steel bars, Detroit	4.13c
Steel bars, Philadelphia	4.13c
Steel bars, New York	4.145c
Steel bars, St. Louis	4.24c
Steel bars, Cincinnati	4.13c
Steel bars, St. Paul	4.395c
Steel bars, Buffalo	4.10c
Iron bars, Buffalo	4.70c
Iron bars, Chicago	4.10c
Iron bars, Cleveland	4.67c
Iron bars, Detroit	4.75c
Iron bars, St. Louis	4.24c
Iron bars, Cincinnati	4.13c
Iron bars, Philadelphia	4.60c to 4.73c
Iron bars, New York	4.745c
Shapes, Chicago	4.27c
Shapes, Detroit	4.23c
Shapes, St. Louis	4.34c
Shapes, St. Paul	4.495c
Shapes, New York	4.245c
Shapes, Cleveland	4.17c
Shapes, Philadelphia	4.23c
Shapes, Buffalo	4.20c
Shapes, Cincinnati	4.23c
Plates, Buffalo	4.45c
Plates, Chicago	4.52c
Plates, Detroit	4.48c
Plates, St. Louis	4.59c
Plates, St. Paul	4.745c
Plates, New York	4.495c
Plates, Cleveland	4.42c
Plates, Philadelphia	4.48c
Plates, Cincinnati	4.48c
No. 10 blue anl. sheets, Chi.	5.52c
No. 10 blue anl. sheets, Cleve.	5.42c
No. 10 blue anl., Buffalo	5.45c
No. 10 blue anl., sheets, St. L.	5.59c
No. 10 blue anl. sheets, Cinci.	5.48c
No. 10 blue anl. sheets, St. Paul	5.745c
No. 10 blue anl. sh., Detroit	5.48c
No. 28 black sheets, Chgo.	6.27c
No. 28 black sheets, Cleve.	6.42c
No. 28 black sheets, Cinci.	6.48c
No. 28 black, Detroit	6.48c
No. 28 black sheets, St. L.	6.59c
No. 28 black sheets, St. Paul	6.745c
No. 28 galv. sheets, Chgo.	7.52c
No. 28 galv. sheets, Cleve.	7.67c
No. 28 galv. sheets, Cinci.	7.73c
No. 28 galvanized, Detroit	7.73c
No. 28 galv. sheets, St. L.	7.59c
No. 28 galv. sheets, Buffalo	7.70c
Hoops, Cleveland	4.92c
Hoops, Detroit	4.98c
Hoops, Buffalo	4.95c
Cold rolled sheets, Buffalo	6.45c
Cold rolled steel	list and 10

IRON AND STEEL SCRAP

(Prices in Gross Tons)

STEEL WORKS USE

Bundled sheets, Cincinnati	$22.50 to 23.00
Bundled sheets, Pittsburgh	22.00
Bundled sheets, Cleveland	24.50 to 25.50
Bundled sheets, Buffalo	24.00 to 25.00
Boiler plate, cut, No. 1, Chg.	25.00 to 26.00
Boiler plate, cut No. 1, St. L.	25.50 to 26.00
Frogs, switches, guards, St. L.	28.50 to 29.00
Frogs, switches, guards, Chgo.	29.00
Heavy melting steel, Pitts.	29.00
Heavy melting steel, Buffalo	30.00
Heavy melting steel, Chgo.	29.00
Heavy melt'g steel, Cleveland	29.00
Heavy melting steel, Cinci.	28.00 to 28.50
Heavy melt'g steel, east. Pa.	28.00 to 29.00
Heavy melting steel, N. Y.	25.50 to 26.00
Heavy melting steel, St. L.	28.00 to 28.50
Heavy melt'g steel, Birming.	26.00 to 26.50
Baled sheets, Cleveland	28.50 to 29.00
Baled sheets, Pitts.	26.00
Baled sheets, Chgo.	26.00 to 26.50
Knuckles, couplers, Chgo.	34.00
Knuckles, coup., St. Louis	33.00 to 33.50
Low phos. steel, Buffalo	37.50
Low phos. steel, Pittsburgh	39.00
Low phos. crops eastern Pa.	39.00
Low phos. guaranteed E. Pa.	36.50
Shoveling steel, Chicago	29.00
Shoveling steel, St. Louis	28.50 to 29.00
Springs, Chgo.	34.00
Steel rails, short, Chicago	34.00
Steel rails, short, Cleveland	34.00
Steel rails, short, St. Louis	30.75 to 31.25
Steel rails, old, Birmingham	26.00 to 28.00
Stove plate, Chgo.	25.50 to 26.50
Stove plate, Cincinnati	22.50 to 23.00
Stove plate, St. Louis	24.50 to 25.00
Stove plate, N. J. points	24.50
Stove plate, Birmingham	23.00 to 24.00
Stove plate, Buffalo	24.00 to 25.00
Stove plate, eastern Pa.	26.50
Stove plate, Cleveland	25.00 to 25.50
Stove plate, Pittsburgh	22.00

Freight Rates, Pig Iron

Mahoning and Shenango valleys to:	
Cleveland	$1.40
Newark, N. J.	4.40
Boston	4.60
Philadelphia	4.10
Pittsburgh	1.40
St. Louis	4.60
Minneapolis, St. Paul	5.70
Buffalo to:	
Albany, N. Y.	$1.75
New England (rail)	3.90
New York and Brooklyn (rail)	3.90
Virginia furnaces to:	
Philadelphia	$4.10
New England	4.70
Brooklyn, Jersey City, Newark	4.40
Birmingham, Ala., to:	
Boston	$7.50
Cincinnati	3.60
Chicago	5.00
Cleveland	5.00
Louisville, Ky.	3.30
Minneapolis, St. Paul	7.30
New York (r. and w.)	7.50
Philadelphia (r. and w.)	6.60
Pittsburgh	6.10
Savannah, Ga.	3.40
St. Louis	4.25
Chicago to:	
Des Moines	$3.50
Minneapolis, St. Paul	2.50
Milwaukee	.60
Moline, Ill.	1.40
Omaha	4.50
St. Louis	1.90
Ironton and Jackson, O., to:	
Chicago	$3.75
Cincinnati	1.75
Cleveland	2.40
Detroit	2.60
Indianapolis	2.30
Minneapolis, St. Paul	5.70
Duluth, Minn., to:	
Minneapolis, St. Paul	$1.60
Mayville, Wis.:	
Minneapolis-St. Paul	$2.20

Freight Rates, Finished Material

Pittsburgh, carloads, per 100 lbs., to:	
New York	24.5 cents
Philadelphia	23.0 cents
Boston	27.0 cents
Buffalo	21.5 cents
Baltimore	22.5 cents
Cleveland	17.0 cents
Cincinnati	23.0 cents
Chicago	27.0 cents
Detroit	23.0 cents
Minneapolis and St. Paul	49.5 cents
Denver	$1.09
St. Louis	33.5 cents
New Orleans	38.5 cents
Birmingham	56.5 cents
Pacific coast (all rail)	$1.25
Pacific coast (tin plate)	1.25

IRON MILL USE

Angle bars, iron, Chgo.	39.00
Angle bars, steel, St. Louis	30.75 to 31.25
Angle splice bars, St. Louis (iron)	37.50 to 38.00
Arch bars, transoms, Chgo.	45.50 to 46.50
Arch bars and transoms, St. Louis	44.00 to 44.50
Busheling, No. 1, Cleveland	29.00 to 30.00
Busheling, No. 1, Buffalo	29.00 to 30.00
Busheling, No. 2, Buffalo	21.00 to 23.00
Busheling, No. 1, Pittsburgh	32.00
Busheling, No. 1, Cincinnati	25.00 to 25.50
Busheling, No. 1, Chgo.	29.50 to 30.00
Busheling, No. 2, Chgo.	19.50 to 20.50
Busheling, No. 1, St. Louis	29.00 to 29.50
Cast borings, New York	15.50 to 16.00
Cast borings, eastern Pa.	19.00
Cast borings, Buffalo	18.00 to 19.00
Cast, borings, Cleveland	18.50 to 19.00
Cast borings, Cincinnati	17.00 to 17.50
Cast borings, Pittsburgh	19.00
Cast borings, Birmingham	17.00 to 18.00
Cast borings, Chgo.	18.50 to 19.00
Cast borings, St. Louis	18.00 to 18.50
City wrought, long, N. Y.	30.00
Cut forge, Chgo.	31.50 to 32.00
Forge flashings, small, Cleve.	27.00 to 27.50
Forge flashings, large, Cleve.	27.50 to 28.00
Forge No. 1, eastern Pa.	27.50 to 28.50
Grate bars, Buffalo	24.50 to 25.00
Grate bars, Cleveland	25.50 to 26.00
Grate bars, N. J. points	24.50
Iron axles, Pittsburgh	46.50
Iron axles, Cincinnati	43.50 to 44.00
Iron axles, Cleveland	46.50
Iron axles, Chicago	46.50
Iron axles, eastern Pa.	46.50
Iron axles, St. Louis	46.00 to 46.50
Iron axles, Buffalo	45.00 to 47.00
Iron rails, Chicago	39.00
Iron rails, Buffalo	36.00 to 37.00
Iron rails, Cincinnati	34.00 to 35.00
Iron rails, St. Louis	38.00 to 38.50
Iron rails, Cleveland	37.00 to 38.00
Machine turnings, Cincinnati	17.00 to 17.50
Machine turnings, Cleve.	18.00 to 18.25
Machine turnings, Buffalo	17.00 to 17.50
Machine turnings, N. Y.	15.50 to 16.00
Machine turnings, Pitts.	18.00 to 19.00
Machine turnings, east. Pa.	19.00
Machine turnings, Birming.	16.00 to 17.00
Machine turnings, Chicago	17.75 to 18.25
Machine shop turnings, St. L.	18.00 to 18.50
Pipes and flues, Cleveland	28.00 to 29.00
Pipes and flues, Chicago	27.50 to 28.00
Pipes and flues, St. Louis	26.25 to 26.75
R. R. mch. cast, No. 1, Buff.	34.00
R. R. wrgt. No. 1, Buffalo	34.00
R. R. wrgt., No. 1, east Pa.	34.00
Railroad wrgt. No. 1 Cinci.	33.50 to 34.00
Railroad wrgt., No. 1, Cleve.	34.00
R. R. wrought, No. 1, Pitts.	34.00
Railroad wrgt., No. 2, Chgo.	31.50 to 32.00
Railroad wr'ght, No. 1, Chgo.	33.50 to 34.00
R. R. wrgt. No. 1, Birming.	27.00 to 28.00
No. 1 yard wrought East Pa.	33.00
No. 1 busheling wrgt., E. Pa.	31.00
Sheet wrought, Pittsburgh	34.00
Railroad wrgt., No. 1, St. L.	33.00 to 33.50
Railroad wrought, No. 2	32.50 to 33.00
Wrought pipe, Buffalo	27.00 to 28.00
Wrought pipe, eastern Pa.	33.00
Wrought pipe, ungraded, eastern Pa.	29.00

IRON OR STEEL WORKS USE

Axle turnings, Cleveland	$24.00
Axle turnings, Buffalo	24.00
Heavy axle turn'gs, E. Pa.	24.00
Heavy axle turnings, Pitts.	24.00
Shafting, New York	35.50
Shafting, eastern Pa.	39.00
Steel car axles, Pittsburgh	46.50
Steel car axles, Birmingham	30.00 to 32.00
Steel car axles, New York	43.00
Steel car axles, Buffalo	44.00 to 46.00
Steel car axles, Cleveland	44.00
Steel car axles, eastern Pa.	46.50
Steel car axles, Chgo.	46.50
Shafting, St. Louis	38.50 to 39.00
Steel car axles, St. Louis	46.00 to 46.50

IRON FOUNDRY USE

Car wheels, (iron), Pitts.	$29.00
Car wheels, (steel), Pitts.	34.00 to 35.00
Car wheels, eastern Pa.	29.00
Car wheels, Buffalo	29.00
Car wheels, Chicago	29.00
Car wheels, St. Louis	28.50 to 29.00
Car wheels, Birmingham	27.00 to 28.00
Car wheels, Cleveland	30.00
Tram car wheels, Birming.	27.00 to 28.00
Cast, No. 1, Birmingham	27.00 to 28.00
Cast, No. 1, cupola east. Pa.	34.00
Cast No. 1, Cleveland	32.00 to 33.00
Cast, No. 1, Cincinnati	32.00 to 32.50
Cast, 1, heavy, N. J. points	32.25 to 32.75
Cast, 1, machy., N. J. points	32.50 to 32.75
Cast, No. 1, Chicago	31.75 to 32.25
Cast, No. 1, Pittsburgh	32.50 to 33.00
Cast, No. 1, St. Louis	28.50 to 29.00
Malleable, Cincinnati	30.00 to 34.00
Malleable, Cleveland	30.00 to 34.00
Malleable, Buffalo	29.00 to 34.00
Malleable, Pittsburgh	33.00 to 34.00
Malleable, east. Pa.	29.00
Malleable, cupola, East Pa.	33.00
Malleable railroad, Chgo.	33.00 to 34.00
Malleable, agricultural, Chgo.	32.00 to 32.50
Malleable railroad, St. Louis	31.00 to 31.50
Malleable agricultural, St. L.	29.50 to 30.00

MISCELLANEOUS USES

Boiler punchings, Chgo.	36.00 to 36.50
Reroll. rails, 5 ft. & ov., Pitts.	34.00
Reroll. rails, 5 ft. & ov., Chgo.	34.00
Reroll. rails, 5 ft. & ov., E. Pa.	34.00
Reroll. rails, 5 ft. & ov., St. L.	33.50 to 34.00
Reroll. rails, 5 ft. or over, Cleve.	34.00
Rerolling rails, long, Birm.	37.50 to 38.50
Locomotive tires, Chgo.	45.50 to 46.50
Locomotive tires, St. Louis	41.50 to 42.00

Iron and Steel Financial News

Up-to-the-Minute Fact and Comment Collected and Sifted For Busy Readers

Street Avoids Early Peace Conclusion

JUST as it dominated other things in the nation the past week, the stirring news from the western front was the all-absorbing topic in financial and business circles. When the fact became definitely established that the Germans were being driven back mile by mile before the onslaught of the Americans and French, Wall Street was thrilled by the news. Stocks were bought freely and prices advanced from one to five points. Trading grew excited and transactions much more numerous, even though close supervision of banking funds and the close control of many lines of industry by the government have been powerful factors in determining the course of business on the stock market. United States Steel common, long the speculative favorite, rose 3⅞ points in one day, on a turnover of 170,000 shares, for Steel common, long known as a peace stock, is also considered to have its war potentialities.

But the striking events on the western front did not lead Wall street or business men as a rule to jump to any conclusions as to an early peace. There were some who predicted that last week's developments might be the turning point upon which the allies would take the initiative from the Germans and that the German high command seeing no hope of a military victory, might shortly endorse a strong peace offensive. At the least, the failure of the latest phase of the German drive was expected to exert tremendous moral influence on the German civilian population. There are some people who believe the war can last no longer than one year, but most of these people are not engaged in industry or business that brings them into contact with the government's war preparations. These plans seem to provide for at least three more years of war and are comprehensive enough for 10 years of war.

Wall street breathes the spirit of the country generally in feeling that the war must proceed at all cost and sacrifice until the enemy is whipped to the earth and an effectual preventive be established so that the world will not again be scourged for generations. In the words of a leading stock exchange house, "Germany, the most abominated criminal of history, must be sentenced —not allowed to negotiate for peace. There must be no conference, no peace table. There must be only unconditional surrender, and after that, terms of PUNISHMENT dictated by the allies."

Renewed evidence of the well-grounded confidence in the future of the steel industry held by both the investing and speculative public was seen last week in the rapid sale of the Bethlehem Steel Corp. $50,000,000 note issue, and in the advance on the New York stock exchange of shares of Bethlehem, United States Steel and other leading steel issues. Bethlehem stock was stimulated by the surprisingly eager manner in which the public absorbed the full amount of the issue, rendering it unnecessary for the underwriters to take advantage of the War Finance Corporation's offer to invest $20,000,000, in case the notes were not disposed of to the public. A growing belief that the U. S. Steel corporation will maintain its present dividend rate on common very largely accounts for the strength of this stock. A part of the new Bethlehem note issue will be used to make certain improvements at Sparrows Point and to recupe working capital, but in the main the money will be employed for refunding purposes. In view of the tremendous expansion in business and capitalization in the last few years—Bethlehem stock and bond issues have jumped from $60,869,000 Dec. 31, 1915, to $237,018,000 Dec. 31, 1917—the fact that this latest operation is largely of a refunding nature is particularly important. It will not increase the company's liabilities and will only increase the fixed charges by the difference in rate of interest between the expiring notes and this issue—$1,000,000. The notes were sold to yield the high rate of from 7½ to 7¾ per cent.

Federal Resources Grow

Between Dec. 31, 1917 and May 10, 1918, an increase of $92,000,000 was made in total resources of the federal reserve banking system. On May 10, the resources of 8134 member banks aggregated $24,070,000,000. This included $18,132,000,000 resources of the 7683 national banks and $5,938,000,000 resources of the 449 state banks members of the reserve system. Loans and discounts on May 10 amounted to $12,142,000,000; Liberty bonds and other government securities held by the banks, $3,196,000,000; other securities, $2,728,000; demand deposits, $11,050,000,000; time deposits, $3,340,000,000; capital stock paid in, $1,367,000,000; surplus, $1,143,000,000. By districts resources were reported as follows: New York, $8,156,000,000; Chicago, $3,170,000,000; Cleveland, $2,206,000,000; Boston, $1,791,000,000; Philadelphia, $1,698,000,000; Kansas City, $1,319,000,000; San Francisco, $1,315,000,000; Richmond, $1,000,140,000; St. Louis, $976,000,000; Minneapolis, $877,000,000; Atlanta, $831,000,000; Dallas, $726,000,000. Resources of the 133 banks in central reserve cities were $8,497,000,000, slightly more than the $8,458,000,000 resources of the 7558 country banks. The 441 banks in other reserve cities report resources of $7,115,000,000.

American Shipbuilding Co. Has Best Year

Authenticated reports indicate that the American Shipbuilding Co., Cleveland, has just closed the most prosperous year of its history. Earnings trebled those of the previous year and the profit and loss account is doubled over what it was one year ago. Preliminary estimates reveal that the total earnings of the company during the past fiscal year which ended June 30 were close to $13,000,000.

After all deductions including a tax allowance of $5,000,000 there remains approximately $6,500,000 available for the common stock. This return is at the rate of 85.52 per cent on the $7,600,000 of outstanding common stock. In the 1917 fiscal year the company earned $4,501,956, and showed a surplus of $1,786,540. The total surplus as of June 30, 1917, was $5,147,564. This year's surplus therefore will bring this